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ANNUAL REPORT

OF THE

SECRETARY OF INTERNAL AFFAIRS

OF THE

COMMONWEALTH OF PENNSYLVANIA.

PART III.

INDUSTRIAL STATISTICS,

VOLUME XXIII,

1895.

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REPORT

OF THE

BUREAU OF INDUSTRIAL STATISTICS.

COMMUNICATION.

Department of Internal Affairs,
Harrisburg, Pa., June 1, 1896.

To His Excellency Daniel H. Hastings, Governor of the Commonwealth of Pennsylvania:

Sir: In compliance with the requirements of the Constitution, I have the honor to submit herewith, for transmission to the General Assembly, the twenty-third annual report of the Bureau of Industrial Statistics, the same being Part III of the reports of this Department.

I am, very respectfully,
Your obedient servant,
JAMES W. LATTA,
Secretary of Internal Affairs.

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LETTER OF TRANSMITTAL.

Harrisburg, Pa., June 1, 1896.

Hon. James W. Latta, Secretary of Internal Affairs of the Commonwealth of Pennsylvania:

Sir: I have the honor to present herewith the twenty-third annual report of the Bureau of Industrial Statistics. The report covers the entire product of tin plate and practically all of the silk manufactured in the State during 1895. Comparative returns from the same manufacturing establishments for the years 1892, 1893, 1894 and 1895; general iron and steel statistics and strikes and their results.

Very respectfully,
JAMES M. CLARK,
Chief of Bureau.

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NEW CASTLE STEEL AND TIN PI

For explanatio

ANY'S WORKS, NEW CASTLE, PA.

see Description.

BLACK AND TIN PLATE.

The production of black and tin plate in the United States having taking a firm hold, and being rapidly pushed to the front as one of Pennsylvania's leading industries, the Bureau presents its first statistics on their manufacture. When it is reflected that out of a total capacity in the United States of one hundred and seventy-five (175) hot mills for the turning out of black plate for tinning purposes, Pennsylvania has sixty-four (64), and that they represent some of the largest, best equipped and most successfully operated tin plate plants of any country, and that all of the tin plate works in the State of Pennsylvania, with the exception of the United States Iron and Tin Plate Manufacturing Company, of Demmler, and the Marshall Brothers & Company, of Philadelphia, are new works, constructed since the enactment of the McKinley law, on the most approved plan, and that the works of these two older establishments have been so remodeled as to conform to the more modern plants, thus making Pennsylvania's tin plate works among the most modern and best equipped of the world, we feel pardonable in giving a description of the works from which the figures for illustration have been taken—the New Castle Steel and Tin Plate Company, located at New Castle, Pa., the largest tin plate works in the world, having not only the largest capacity for production, but also the largest number of hot mills in any one plant.

Description of the New Castle Steel and Tin Plate Company's Works.

Mill known as No. 1, in which there are six hot mills and one three-high bar mill is on the south line of the property and extends lengthwise east and west 250 feet long by 113 feet wide. On the west end there is a building, 50x55 feet, in which is located a Siemens gas regenerative furnace for heating billets. South of this hot mill building and furnace is located a track over which coal to the furnaces and boilers is delivered. North of the hot mill building fifty feet, is the tin house 132 feet long by 60 feet wide, 18 foot story. East of the tin house is a warehouse and boxing room 55x60 feet. South and east of this, and connected with this boxing and warehouse room, is an assorting room 20x150 feet, with a lean-to, which is occupied as an office for the shipping clerks. Immediately west and con-

nected with the tin house is a pickling room for white pickling 50x60 feet. Also, connected with, and under the same roof, an annealing department for white annealing 60x205 feet in length. This annealing room connects with an annealing room immediately west, which extends north and south a total length of 416 feet by 110 feet wide, and 29 feet high to bottom of lower cord. The mill known as No. 1 is connected with the tin house and annealing department by a building 50x120 feet. In the annealing room just described, which is 416 feet long, is located the cold rolls. They now have in operation 21 stands of cold rolls. This annealing room and cold rolling department has a Sellers' electric traveling crane of 15 tons capacity, which travels the entire length of the building, with a 78 foot span.

The rolling mill known as No. 2 is located at right angles extending east and west from the north end of the annealing room just described, and is 500 feet long by 107 feet wide. This building contains 12 hot mills with furnaces, shears, engines, shafting and all complete. There is also in this building a Sellers' electric traveling crane, of 20 tons capacity, which travels the entire length of the building. The building in the main span is 29 feet from the floor level to the under part of the lower cord. It also has two extensions that cover the cross compound condensing Corliss engines 30x50 feet, located on the south side of the building. There is in the course of erection a tin house between this new hot mill building and the tin house and annealing department now in operation, connected with mill No. 1, the dimensions of which are as follows: Tin house, 64x180 feet, in which will be located 20 stacks; assorting room, 80x64 feet, boxing and warehouse 107x80 feet, two stories high, which will contain an elevator. Underneath the tin house, assorting room and warehouse, is a basement eight feet deep. This building will probably be completed and in operation by August 1 to 15, 1896.

All the buildings are of iron and brick with the exception of the buildings in which are located the boilers. They have, for the entire plant 14 multi-tubular boilers each 7 feet diameter by 18 feet long, each boiler containing 104 4-inch tubes.

There is an electric light and power house 40x70 built of brick in which is located the feed water pumps, dynamos and generator, which furnish the electric power for 120 arc lights, each of 2,000 candle power. The generator furnishes the motive power for the cranes, motors and incandescent lights, and is large enough and c sufficient power for operating two additional cranes if they desire to locate them at any time in the future. The engines are all of the Corliss make and were built by the Bass Foundry and Machine Works, of Fort Wayne, Ind.

In the hot mill building No. 1 are two 30x60 Corliss engines, which are connected with the six trains of hot mills and three-high bar

mill by steel gears. The engine that furnishes the power for the cold rolls is a 30x60 engine of the Corliss type, and drives the cold rolls by what is known as rope transmission. That is, there are 27 ropes on the wheel on main shaft of engine, which extends to the three driving wheels on jack shafts of cold rolls. Each of these wheels have nine 2-inch ropes and are 22 feet 6 inches in diameter. The diameter of the wheel on main shaft of engine is 14 feet.

In the hot mill building in which are located the 12 mills, the power is furnished by two Corliss cross compound condensing engines, each rated at 1,250 horse-power. The fly wheel located on main shaft of engine is 13 feet 6 inches in diameter. The fly wheel on jack shaft, to which trains are connected, is 25 feet in diameter by 100 inches face, and contains 32 grooves in which there are 32 2-inch manilla ropes used that are connected with fly wheel of same face or width. The distance from centre of fly wheel on jack shaft to centre of fly wheel on engine is 65 feet. The fly wheel and jack shaft on trains weight about 100 tons. Each of the cross compound condensing engines weigh 100 tons. In the hot mill building, also the new annealing and cold rolling building, they have railroad tracks on which cars are run into the building in order that heavy machinery and castings may be lifted from cars by the cranes. They unloaded the greater part of their machinery with the cranes, and erected all of same with them.

The water supply is taken from the Shenango river, conducted through a 24-inch cast iron pipe, into a cistern or well located close by the cross compound condensing engines. They have a water supply from a smaller stream known as Big Run, to which is laid a 12-inch pipe that conducts the water to a cistern, or well. The railroad tracks and sidings are so connected and arranged with the works that all of the coal for boilers and furnaces of every description is thrown from the cars into chutes that deliver the coal at the furnaces without any extra handling. They have a blacksmith shop, in which there are three air blast forges, also a machine shop separate from the blacksmith shop, 40x70 feet, which is supplied with lathes, planer, drill press, etc. They have also three roll lathes of capacity sufficient to turn rolls of the smallest diameter up to 36 inches in diameter, and of any length required in any tin or sheet mill practice. In the new rolling mill all of the doubling shears are driven by belts that are connected with a line of shafting running the entire length of the building. Also, all of the squaring shear and roll lathes are run by belt taken from overhead shafting. In fact, there are no doubling shears, squaring shears or roll lathes connected with any small engine. In the new mill one engine drives all of the doubling shears on one side and another one drives all of the squaring shears and two roll lathes.

To sum it all up the dimensions, or number of square feet covered by the various buildings are as follows (see general view of the works for corresponding numbers):

(7 and 8) Boiler houses, 46x200 feet.
Electric light and power house, 40x70 feet.
(6) Machine shop, 40x70 feet.
Blacksmith shop, 30x50 feet.
(9) Gas producer building, 30x50 feet.
(w) Two large water tanks that are enclosed in buildings, each 20x20.
(0) Iron water tank or stand, 14 feet diameter by 60 feet high.
(11) Pickling room connected with the annealing department, 70x90 feet.
New tin house, 260x64 feet, 18 feet high.
(12) Warehouse, 107x80 feet, two stories high.
(10) Building over gas regenerative furnaces, 50x55 feet.
(1) Hot mill building, 250x113 feet.
(13) Building connected hot mill and tin house and annealing room, 120x50 feet.
(4) Tin house and white annealing, 440x60 feet, with iron lean-to over to annealing furnaces, 24x80 feet.
Iron lean-to over cold roll engine, 80x38 feet.
(5) Assorting room, 20x150 feet.
(3) Annealing and cold rolling building, 110x416 feet.
(2) Hot mill building, 500x107 feet.
Two extensions over cross compound engines, each 30x50 feet.
(x) Office.

The following history of the manufacture of tin plate, written by that thoroughly schooled iron and well versed tin plate man, Hon. John Jarrett, will be read with much interest:

History of Tin Plate Making.

We have no authentic history showing when the art of tinning iron plates or sheets was first invented and practiced. The Romans, during their occupation of Britain, B. C. 55 to A. D. 409, operated the Cornish mines, the product of which, after being smelted was manufactured into various vessels and utensils. The probability is these vessels were made by casting the molten tin into molds of various shapes, according to the desired design. Bronze and brass were also largely used in those times, of which tin is a very important constituent.

But whether the Romans made or used tin plates as now termed we have no clear or satisfactory account. Pliny wrote as if iron wares were dipped in tin, for he refers to some process by which "iron wares were made of tin, which made but little difference in

A BATTERY OF BOILERS.

the weight." We could infer from this statement that some such process as that of dipping iron wares and utensils in molten tin was practiced in some form, and the probabilities are that some such process as this antedated the making of tin plates by several centuries.

According to the most reliable accounts we have, the art of making tinned plates of iron for manufacturing purposes was invented in Bohemia, or Saxony, near the Erz mountains, in Germany, nearly 500 years ago. It is remarkable that, notwithstanding the fact that England was the chief source of the supply of tin to Europe, really possessing a monopoly of it until a little over a hundred years ago, the Germans not only discovered the art of tin plate making, but also managed to keep the process a secret for a long time. England imported from Germany large quantities of these plates and used them for warrior's armatures, church steeples and fancy ware. Pieces of these wares were kept as heirlooms from generation to generation, and are still to be found in old English families as highly treasured relics.

The first account we find of tin plate manufacture in England, is in a work, entitled "England's Improvements by Sea and Land," published by Andrew Yarranton, about 1681. Among other points he shows that in 1670 tin plates, i. e., iron plates tinned over, were made in small works at Pontypool, Monmouthshire, through his means, he having been employed by some gentlemen to go to Bohemia, where he learned the manner of making them.

When he returned home he at once started operations in putting into effect his observations of tin plate making abroad, the result of his experiments being, as he says, "better plates than he had seen abroad, both in quality and finish." Preparations were now made by Yarranton's employers to manufacture plates on a commercial basis, but in the meantime a gentleman of influence in the Royal Court having learned of the scheme, applied for and obtained a patent for the sole making of tin plates, when the adventure was dropped by Yarranton's employers, who had, at very large expense discovered the process of manufacture. It then remained unpracticed in England for several years.

In 1720 Major John Hambury, an ironmaster in Pontypool, took up the enterprise where Yarranton's employers had dropped it, and succeeded. His enterprise was the first tin plate works established of a permanent character, and may be cited as the commencement of the tin plate industry in Great Britain.

In those early days of the industry the black plates were made by being hammered to the required thickness under water driven, slow motion tilt hammers. The process was an exceedingly slow and tedious one, the thin black plates all being hammered out of a ball of iron weighing about 250 pounds, made in a sinking or "knobbling fire," as now commonly called.

About 1728 John Payne invented the process of rolling iron, which resulted in the use of the flat, or sheet rolls, for the making of black plates for tinning. This discovery of Payne's was one of very great importance to the British industry, as by it the output of product was increased fivefold, and the surface finish of the plates was far superior to that of the hammering process.

At this time the attention of Parliament was directed to the situation of the black plate industry, and a law was passed placing a heavy duty on imported tin plates. The following statement is taken from a little pamphlet, entitled "For Working of Tin Plates or Whited Iron Plates," published about 1800. "This manufacture, since the year 1720, is brought to great perfection in Monmouthshire and elsewhere in England, which before we had entirely from Germany, ours being now also of greater beauty and durableness than any foreign tinned plates. From about 1740 the making of tin plates began to take permanent root in this country. Then termed thin plates of iron tinned over, which foreigners termed white iron, had come to such perfection in England, after being long lost or neglected, so that now very little of it was imported from foreign parts, our own now being made of a finer gloss or coat than that made beyond the sea, the latter being hammered and ours being drawn under a rolling mill. This improvement is a considerable benefit to the nation in the general annual balance of trade, there being a very great quantity of this manufacture consumed in Britain, Ireland and the plantations for many necessary and various uses. And, although the duty on foreign tinned plates is hereby sunk, yet the employment given to our own manufacturers thereof, and the money kept at home, which was formerly paid for this commodity from Hamburg, greatly overbalance the loss of the customs thereon.

It was, indeed, long justly wondered at that England, which had the best tin in Europe and the greatest quantity, and had iron enough for the purpose, should have so long continued to pay such great sums to foreign nations for what we might long since have made our own." It may be added here that not only had the importation of German tin plates into England almost entirely ceased in 1740, but this year also marks the commencement of the exportation of British tin plates to some of the principal markets in Europe.

The old method of preparing the iron plates to be tinned was to scour the plate with sand and water until they were bright and clear, any rough parts remaining were filed off. The next step was to cover the plates with resin, when they were ready to pass through the tinning operation. About 1745 an improvement of great importance was made in this process by "one Mosely, who had tin works in Staffordshire," which was the use of the grease pot, thus

doing away with the unpleasant use of resin in preparing the plates to be dipped in the bath of molten tin. It is also supposed that cold rolling was first practiced at Mosely's works. The grease pot was introduced into Wales in 1747.

The process of pickling the plates in acid dates from about the year 1747. The acid for pickling was made by allowing bran, rye or barley to stand in water until by fermentation it had become sufficiently acid, usually about ten days. The plates, after being cold rolled, were immersed and soaked in the acid bath for a week, after which they were scoured with sand and water. In 1760 the use of dilute muriatic acid was introduced for the pickling of the plates. It was found that while the dilute muriatic acid did its work in a short time, reducing it from one week, necessary by the use of the lees of bran, to about two or three hours by the new or muriatic acid process, the quality of the iron plates was somewhat interfered with. This was overcome by double annealing the plates, which was done by smothering the plates in charcoal in close furnaces.

About the year 1783 grooved rolls were first introduced into the tin plate works for reducing the hammered bloom, or slab, into bars Up to this time the product of blast furnaces using charcoal fuel, charcoal pig iron only was used in the making of tin plates. The use of coke was now rapidly taking the place of charcoal fuel in the blast furnaces of Great Britain, and the puddling furnace was commencing to take the place of the knobbling fire.

Naturally these new inovations found their way into the tin plate industry. At first, however, no attempts were made at experimenting further than the use of coke pig iron in the knobbling fire either by itself or mixed with charcoal iron. Probably to this may be traced the origin of the terms charcoal plates and coke plates, coke plates being the product of all coke pig used in the knobbling fire, best charcoal, that of all charcoal pig, and charcoal that of a mixture of charcoal and coke pig, or scrap worked up in the knobbling fire. The fuel used in both the "dandy" or running out fire, and the "knobbling," or balling fire, was charcoal. The result of the experiments in the use of coke pig iron was in every way successful, an excellent product being made.

The experiments with the grooved rolls, which were practically the introduction of the tin bar mill, were also very successful and proved to be a very important improvement to the tin plate industry. Previous to this it was necessary in preparing the knobbling ball for the flat or sheet rolls to pass it through a series of heatings and hammering. With the new process but two hammerings were necessary, that of reducing the ball to the form of a bloom or billet about eight or nine inches square, and after cutting the bloom into two or three pieces, heating each piece in a "hollow furnace," and

then passing it through the grooved rolls and reducing it to a bar about seven inches wide by from seven-sixteenths to three-fourth of an inch in thickness. The bar was then cut into pieces of the length required to make plates of the specified width and weight. For several years after the introduction of this system the bars thus made were rolled direct into black plates.

About 1795, puddled bars were to some extent used in tin plate making, to utilize which it was found necessary to rework the bars by making them into piles, heating these in a furnace having a cinder bottom and again rolling into bars as before. The amount of puddled bars used was, however, very limited, until the invention of the iron bottom in the puddling furnace, and the boiling system of puddling, about 1840. In 1850 the quantity of puddled bars used in the tin plate making exceeded that of charcoal bars. The product of the knobbling fire and the puddling furnace, however, always retained their place in the British tin plate industry until they were superseded by open hearth and bessemer steel bars within the last eighteen years. The knobbling fire outlived the puddling furnace by several years. The writer, when in Wales in 1890 and 1891, saw a few of the old knobbling forges still in operation. Of these, the old Margam, at Taiback, Glamarganshire, was the most important, but within the last two years these works have been dismantled and the principal part of the plant transferred to the works of the Mansel Tin Plate Co., which is but a short distance from the location of the old works. I believe that the dismantling of the Margam is the end of the knobbling fire system in the Welsh tin plate industry. I did not see a single puddling furnace in operation while in Wales, this branch of the business having totally been discontinued several years ago.

In 1860 the addition of the wash pot to the tinning pot was introduced. This was a very important improvement as by it greater economy in the use of the amount of tin and uniformity on both sides of the plate was accomplished. Also the tinning of plates of lighter gauges than heretofore.

The annealing pot was invented by Mr. Thomas Morgan in 1829, and the tin pot rolls were introduced in 1865. Other important improvements have since been made, such as pickling machines, brushing and dusting machines, etc.

We have no satisfactory record of the production of tin plates in England and Wales from 1740, the date in which the industry took permanent root in that country, until 1834. In the latter year Thomas William Booker, Esq., wrote an essay for an Eisteddfod, held in Cardiff, on the "Mineral Basin of Glamorgan and district, with the national benefits arising therefrom." With respect to the tin plate branch, he says: "The tin works of the district are seated

on the rivers, Avon, Llwyd, Ebbw and Taff, also in the neighborhood of Swansea and Llanelly. They afford direct employment to not less than four thousand persons, and the quantity of tin plates annually produced is about 180,000 boxes."

In 1848 the Royal British Association held its annual meeting at Swansea. At this meeting Mr. Booker, then high sheriff of Glamorgan, stated "that the most extensive establishments in the world for the manufacture of tin plates are situated in this district, the principal seats of which are in Monmouth and Glamorgan, likewise extensive works in Carmarthenshire. When in full operation, the works of this district produce not less than 520,000 boxes of tin plates annually, but the existing depression of the times has reduced the produce to not exceeding 335,000 boxes during the last year. About 1,500 tons of tin were used, the value of which was 135,000. The value of the tin plates produced during the year at the low prices existing, was about half a million sterling (500,000 pounds)."

In 1834 the value of exports of tinplates from Great Britain amounted to £337,000. In 1848 it reached £502,000. In 1860, it had risen to £1,535,000, representing 1,002,400 cwt.

The following statement shows the production of tin plates in Great Britain and the exports to all countries, also exports to the United States according to the Board of Trade returns for each fifth year from 1865 to 1895, inclusive:

	Production. *cwt.*	Exports to all countries. *cwt.*	Exports to United States. *cwt.*
1865, ...	1,408,000	1,254,367	845,263
1870, ...	2,459,782	2,001,575	1,507,453
1875, ...	2,952,116	2,767,260	1,919,900
1880, ...	6,000,000	4,354,360	3,283,340
1885, ...	6,400,000	5,952,040	4,453,100
1890, ...	9,680,815	8,343,120	6,283,280
1895, ...	8,000,000	7,371,230	4,527,256

There are at present ninety-six tin plate works in Great Britain, with a total of 519 black plate mills, having an annual capacity of about 12,000,000 boxes, or 600,000 net tons of finished product. The number of workmen employed in 1892 was estimated at 40,000. It should be understood that this number included only those hands that were employed in the tin plate works proper, or, only that labor involved in the conversion of tin bars into finished tin plates. If coal miners, ore miners, quarrymen, black furnace hands and steel workers and others were included, the total number of men employed in the production of tin plates would exceed 100,000.

Since the year 1892, the production of tin plates in Great Britain has largely fallen off, and it is estimated that during the last year but little over one-third of the capacity of the mills of that country

were employed, the decrease being due to the growth of tin plate manufacture in the United States.

The rapid growth of the British tin plate industry in the last thirty years, it will be observed, was due almost entirely to the large and constantly increasing consumption of tin plates in the United States. The increase of the consumption of tin plates in this country from 1865 to 1890 was larger on a percentage basis than either production in Great Britain or imports to all countries; the increase in the consumption of British tin plates in the United States in 1890 over that of 1865 being 643 per cent., the increase of British production 587 per cent. and the increase in exports to all countries, including that to the United States, 565 per cent.

This is a remarkable showing, and the question may well be asked why is it that the people of the United States, being a larger consumer of tin plates than all other countries in the world combined, did not make tin plates?

We have already stated in this article that the German managed to keep the process of tin plate making a secret for a long time from the British, notwithstanding the fact that the latter had the best tin mines, possessing, as they did, almost a monopoly of the world's supply of tin. The conditions surrounding the little industry in Saxony were, however, of such a character as to make the task one of comparative ease to the shrewd Germans.

But is it not justly to be wondered at that the British tin plate makers were able to maintain their hold on the manufacture of tin plate and succeed in keeping the American people in almost absolute ignorance of their ability to manufacture tin plates. So deeply rooted was the belief among the American people that tin plates could not be successfully made in this country that even large numbers of those who favored our policy of protection were opposed to the placing of a protective duty on imported tin plates.

It is an exceedingly difficult matter to explain how it was that the British manufacturers of tin plates and their representatives in this country succeeded in misleading the American people as to what constituted tin plates and throwing such a veil of mystery around the process by which tin plates were manufactured. They did this so well, however, that until a very recent date there were but very few people in this country, comparatively speaking, who had a correct conception of what tin plates really were, and who believed the industry could be successfully carried on in this country.

With the revival of the protective policy in the year 1861, and from that time until the enactment of the McKinley law, the most difficult obstacle the friends of American production of tin plates had to contend with was this very misconception on the part of our people as to what tin plates really were.

WAREROOM.

The tariff and industrial history of the United States run on parallel lines. Without the aid of the tariff protection no great manufacturing industry has ever been established in this country. Under the fostering care of the protective tariff enacted in 1861 and 1861 the manufacturing industries of this country were so fortified that we have become the greatest manufacturing country in the world.

The tin plate industry is a remarkable illustration of the effect of tariff-legislation, for notwithstanding the significant fact that the increase in consumption of tin plates in this country for the last thirty years has been unprecedented and greater than that of any other commodity of iron and steel manufacture, the attempt to successfully establish the industry failed until we succeeded in having a protective tariff imposed on the imported article.

A brief survey of the tariff history in its relation to tin plates coupled with the attempts prior to the passage of the McKinley law to establish the industry in this country, will be appropriate. Congress, in 1864, passed a tariff revision act. In that act we find the following section:

"On tin plates, or iron galvanized, or coated with any metal by electric batteries or otherwise, two and one half cents per pound." The phraseology and punctuation of this section clearly indicates that tin plates, as well as galvanized iron, or coated with any metal, etc., must pay a duty of two and one-half cents per pound. But the Hon. W. P. Fessenden, who was then secretary of the Treasury department, in a letter addressed to Hiram Barney, collector at the port of New York, rendered a somewhat remarkable construction on the meaning of the section. A copy of the letter is herewith appended.

Treasury Department,
Office of the Secretary,
Washington, D. C., July 22, 1864.

Hiram Barney, Esq., Collector, New York:

Sir: Your letter of the 12th instant, is received, requesting to be instructed in writing in relation to the proper construction of the language of the second paragraph on the ninth page of the printed tariff of June 30, 1864, viz: "On tin plates, and iron galvanized or coated with any metal by electric batteries or otherwise, two cents and a half per pound."

It would appear that an error of punctuation has been made by some one; most probably by the clerk who engrossed that part of the act. If the comma which is inserted after the word "plates" be omitted, and a comma placed after the word "iron," the true sense will be had, which unquestionably is that the tin plates, as well as the iron, must be galvanized or coated with any metal by electric batteries or otherwise in order to bring them within this provision.

I am able, from the part which I took personally in the framing of this provision to speak with confidence as to the intent of it, and have no hesitation in saying that it was not contemplated by Congress to make any addition to the rate of duty prescribed by previous tariff acts on ordinary tin plates.

I am, very respectfully,

W. P. FESSENDEN,

Secretary of the Treasury.

It is quite evident that the Secretary did not possess much practical knowledge as to what constituted tin plates, for permitting the comma to remain after the word "tin plates" made the section intelligible, but the Secretary, by removing the comma, made its meaning absolutely unintelligible. He then applied to tin plates another section of the tariff act which reads as follows :

"Tin in sheets or plates, Terne & Taggers tin; twenty-five per centum ad valorem."

Here we have it very plain that the secretary believed that tin plates were made of pure tin and that he had no conception whatever that tin plates were sheets of iron, coated with tin. It is not impossible that the framers of the tariff act of 1864 and Congress itself must also have been laboring under a misconception as to what constituted tin plates, as the terms "tin in sheets," clearly conveys the idea that the impression then prevailing was that the sheets or plates were made of tin only and, consequently, that tin plates were a tin product and not sheets of iron or steel coated with tin.

Thus we find that from the very commencement of tariff legislation affecting tin and terne plates, this singular misconception of what constituted tin plates has existed.

Mr. Fessenden's decision aroused no antagonism, as at that time no attempt of any kind had been made to manufacture tin plates in this country, nor have we any information that would indicate the remotest interest on the part of any of our people in the subject. The earliest information we have of interest being taken in the manufacture of tin plates was in 1868, when the Cambria Iron Company, of Johnstown, Pa., sent an experienced metalligist and iron mill man to Europe to investigate the process of making tin plates. About the same time, yet without any knowledge between the parties, James Park, Jr., of Pittsburgh, for the same purpose also sent a man abroad.

After visiting several tin plate works in England, Wales, Germany and France, these gentlemen returned and reported that while this country possessed facilities equal and in some respects superior to any of those they had visited, it would be impossible to establish the tin plate industry in this country, paying the wages ruling here

(No. 1.) GAS REGENERATIVE BILLET HEATING FURNACE.

and compete with European countries without adequate protection by the United States.

In 1864 coke tin plates sold in London at 26s. 4d. per box, hence the duty of twenty-five per centum ad valorem afforded a protection of only $1.60 a box. The prices practically remained stational until 1870, in which year the highest price quoted for coke grades was 26s. In 1871 prices began to advance rapidly. The high prices that had prevailed for tin plates and the steady advances then taking place, impressed a few workmen who had been employed in the tin plate business in Wales, and who could not understand why tin plates were not made in this country, that it would be a very good idea on their part to quietly start the manufacture of plates in this country. These workmen did not attempt to build a works, but bought sheet iron which they arranged to have pickled, cold rolled and cleaned. They constructed a small plant in which they put the plates through the tinning process. This was in the city of Pittsburgh. Operations were started in October, 1871.

But one tinning set was erected. Consequently operations were on a small scale only. The venture was a success in every way. Shortly after this a company was formed and a works erected at Wellsville, O., for making black plates on what is termed "tin style." At the time the Wellsville works were being built and about completed, Mr. Rogers, a practical tin mill manager from England, with a few other parties, projected a tin plate works at Leechburg, Pa. In the meantime the Wellsville works were completed and put into operation. The start was eminently successful. The plates turned out were of excellent quality and finish. This result was natural, as the workmen employed were nearly all practical tin plate workers from Wales.

In 1872 the duty on tin plates was reduced to fifteen per centum ad valorem, but the prices of imported plates kept steadily advancing, prices of coke tin in that year in Liverpool reaching the high figure of 40s. per box. In January, 1873, the quotations of tin plates in the New York Iron Age were as follows:

	Sheets.	Per box.
Prime charcoal, 14x20, ...	112	$14 75
Coke, best quality, 14x20, ...	112	14 50
Coke, second quality, 14x20, ...	112	13 00
Coke, ordinary quality, 14x20, ...	112	12 00
Each additional X, ...	....	2 25

In the spring of 1873 the works at Leechburg were completed and put into operation. Here again the enterprise was successful, the plates turned out being in every respect equal in quality and finish to the imported plates. During this year the works at Demmler, Pa.,

near Pittsburgh, known as the United States Iron & Tin Plate Manufacturing Company, was projected and the building of the works soon under way. Early in the fall of 1874 the works were completed and in operation making plates. The start at these works again was eminently successful, the product being first class in every respect. These works, after having overcome the troubles incident to the starting of a new industry were running very prosperously, the prices ruling giving the manufacturers a good margin in profits owing to the very high prices at which imported plates were selling in the American markets. The plates turned out by the American manufacturers were received very favorably by the American consumers, and the prospects for the future success of the new-born industry seemed bright and fair.

But it did not last long. The British manufacturers and their allies in this country becoming aware that their interests were being jeopardized if they allowed these pioneers of tin plate making to apply their vocation without molestation, determined on a policy of extermination. The tactics adopted were to rapidly reduce prices. By the time the Demmler works were fairly in operation, plates had fallen in prices nearly $3.00 a box, but even with this reduction there was a good margin in the way of profits left to the American manufacturers and they had hope that the enterprise would still prove a success, but prices kept steadily dropping and the manufacturers had no other recourse but to appeal to Congress for relief. Their petition, however, was in vain, for the only thing Congress did in the tariff amendment act in 1875 was to change the duty on imported tin plates from fifteen per centum ad valorem to a specific duty of one and one-tenth cents per pound. The one and one-tenth cents per pound was simply the equivalent of the ad valorem duty on the foreign prices of tin plates then prevailing. In the meantime the Wellsville works had unfortunately discontinued operations. The company had been organized on the co-operative plan. The treasurer took advantage of his position and decamped with a large amount of money belonging to the company, leaving it in a bad condition and obliging it to discontinue operation. The downward movement of prices forced by the British manufacturers soon compelled the Leechburg concern to cease operations also.

The Demmler concern, however, still persevered. It should be stated here that Mr. W. C. Cronemeyer was associated with the Demmler concern from its inception and he was the chief party who agitated an increase in the tariff before the Congress of 1875. But the plucky Demmler concern had eventually to cease making tin plates, for in October, 1878, charcoal plates had fallen to $6.25 a box, a decline of $8.00 per box from January. 1873, and coke plates had fallen to $5.18 per box, a reduction of $9.32 from January, 1873.

Shortly after the Demmler concern ceased operations the prices of tin plates began to move upward again, and in the fall of 1879, the price of coke plates reached $7.50 per box. The Demmler works were again started, but no sooner were they fairly under way than prices began to fall again, after which the prices never reached a point at which the Demmler concern could resume operations.

It was about this time that bessemer steel was introduced into the tin plate industry in England and Wales, and this has been argued as the chief cause why prices never reached the high points that had prevailed previous to this period. It may, however, be interesting to the casual reader to learn that the introduction of the use of bessemer steel in the making of black plates for tinning purposes first took place in the United States. During the year 1876, after several consultations between the late Captain William Jones, then superintendent of the Edgar Thompson Steel Works, and the late John Cole, superintendent of the United States Iron and Tin Plate Manufacturing Company, the two came to the conclusion that bessemer steel could be profitably used as a substitute for charcoal iron in the manufacture of tin plates. The experiment was tried and with eminent success. The steel was made by Captain Jones and Mr. Cole turned them into tin plates. We do not find any record of bessemer tinplates in the English market reports until the latter part of 1878. It is therefore altogether probable that the first tinplates made out of bessemer steel were made in the United States, and had there but been a reasonable duty on tin plates, the probabilities are that the prices paid by American consumers of tin plates between the years 1878 and 1891, would have been on the whole lower than the actual selling prices during that period. After the failure of the attempt of the United States Iron and Tin Plate Manufacturing Company, in 1879, to resume making tin plates, no further attempt was made on the part of that or any other firm to make plates in this country until after the passage of the McKinley law on October 1st, 1890.

The tin plate clause in the McKinley law is as follows:

"All iron or steel sheets or plates, and all hoop, band or scroll iron or sheet, excepting what are known commercially as tin plates, terne plates and taggers tin, and hereinafter provided for, when galvanized or coated with zinc or spelter or other metals, shall pay three-fourths of one cent per pound more duty than the rates imposed by the preceding paragraph upon the corresponding gauges or forms of common or black sheet or taggers iron or steel; (2) and on and after July 1, 1891, all iron or steel sheets or plates, or taggers iron coated with tin or lead, or with a mixture of which these metals, or either of them, is a component part, by the dipping or any other process, and commercially known as tin plates, terne plates and taggers tin, shall pay two and two-tenths cents per pound; (3) Provided, That on and after

July 1, 1891, manufacturers of which tin, tin plates, terne plates, taggers tin, or either of them, component materials of chief value, and all articles, vessels or wares manufactured, stamped or drawn from sheet iron or steel, such materials being the component of chief value and coated wholly or in part with tin or lead or a mixture of which these metals, or either of them, is a component part, shall pay a duty of fifty-five per centum ad valorem; (4) Provided further, That on and after July 1, 1897, tin plates and terne plates lighter in weight than sixty-three pounds per hundred square feet shall be admitted free of duty, unless it shall be made to appear to the satisfaction of the President (who shall thereupon, by proclamation, make known the fact) that the aggregate quantity of such plates lighter than sixty-three pounds per hundred square feet produced in the United States during either of the six years next preceding June 30, 1897, has equaled one-third the amount of such plates imported and entered for consumption during any fiscal year after the passage of this act, and prior to said October 1, 1897; (5) Provided, That the amount of such plates manufactured into articles exported, and upon which a drawback shall be paid, shall not be included in ascertaining the amount for such importations; (6) And provided further, That the amount of weight of sheet iron or sheet steel manufactured in the United States and applied or wrought in the manufacture of articles or wares tinned or terne plated in the United States, with weight allowance as sold to manufacturers or others, shall be considered as tin and terne plates produced in the United States within the meaning of this act."

The McKinley act became a law on October 1, 1890. It will be perceived that by its provisions the tin plate clause did not become operative until July 1, 1891. The object in thus deferring the time in which the tin plate clause should go into effect was for the purpose of giving persons who may desire to go into the business of producing tin plates time to make the necessary arrangements to commence the manufacture of the commodity.

But in the meantime several unfortunate circumstances affecting the successful establishment of the tin plate industry had arisen. In the November election following the passage of the McKinley act the complexion of the House of Representatives was changed. This change had anything but an inspiring effect on those contemplating going into the business of tin plate manufacturing.

The effect of the elections on the British manufacturers and their allies was entirely different. They were so encouraged that their energy for aggressive work in taking advantage of the situation in this country was in every way increased. They had already largely advanced the prices of tin and terne plates, and no doubt for the purpose of augmenting the position of the American consumers to the increase duty on tin plates they further advanced prices to a point of thirty per cent. beyond the average price for 1889. In addition to this they availed themselves of every possible means of increasing the production by operating their works day and night with their fullest capacity and shipping every available pound of tin and terne plates they could command to this country for the purpose of flooding the American market.

(No. [illegible]) HEATING FURNACES AND HOT ROLLING MILLS, BLACK PLATES

The quantity of British tin plates imported into the United States during the fiscal year ending June 30, 1891, was 1,036,489,074, for the preceding year ending June 30, 1890, the quantity of British tin plates imported was 680,006,095. The abnormal quotations of tin plates for the fiscal year 1891 and the consequent overstocked condition of the American market with a House of Representatives believed not to be friends to the tin plate industry were conditions possessing elements of encouragement. Still it was believed by those contemplating going into the manufacture of tin plates that inasmuch as the United States Senate and the administration then in power were in favor of maintaining our protection policy and under the impression that the fourth provision of the McKinley act known as the "time limit," would not be interfered with even by an adverse House of Representatives, they went ahead with their preparations in arranging their works for making tin plates.

Whatever may have been the depressing influence surrounding the advent of the tin plate industry in this country, its growth from the start, it must be confessed, has been of a healthful character.

The old pioneer of the tin plate business, United States Iron and Tin Plate Manufacturing Company, took the lead in establishing the industry under the McKinley law, supported strongly by the St. Louis Stamping Company and Wallace Banfield & Co., of Irondale, Ohio. Each of these firms had been engaged in the manufacture of sheet iron. They converted some of their sheet mills into black plate mills and added tinning departments to their works. No new black plate mills were attempted at this stage of the proceedings.

Shortly after the starting of these works a few coating factories were constructed at Philadelphia and Pittsburgh. The growth of the industry was at the start naturally slow. The production for the first three months under the McKinley law being 826,922 pounds. The industry, however, steadily gained, so that the production for the fourth quarter of the first year reached 8,200,751 pounds. The total production for the year being 13,646,719 pounds. A few sheet mills had, in the meantime, been changed into black plate mills, and in addition to this a few more coating factories had been erected. These factories had to have their supply of black plates chiefly from Wales. During the second year the importation of foreign black plates increased very largely for the purpose of meeting the requirements of the coating factories. Several black plate mills had, however, started and consequently the production of American black plates had very largely increased. From the end of the second year the importation of foreign black plates gradually declined, while on the other hand, the production of American black plates largely increased. The American production of black plates suffered from labor contentions between the employers and workmen in the wage question and the action of Congress in passing the Wilson-Gorman bill, reducing the duty on tin plates from two and two-tenths cents per pound to one and two-tenths cents per pound. The industry, however, steadily gained ground. To indicate the growth of the industry in the United States the following statement, taken from the report of Ira Ayer, special agent of the Treasury department, relative to the production of tin and terne plates in the United States during the fiscal year ending June 30, 1895, is submitted:

SUMMARY of production for the Fiscal Years

Period from—		Tin plates.		
		Lighter than 63 pounds per 100 square feet.	63 pounds per 100 square feet and heavier.	Total.
		Lbs. net.	*Lbs. net.*	*Lbs. net.*
July 1, 1891, to Sept. 30, 1891. . .	First fiscal year under law of October 1, 1890.	134,869	17,620	152,489
Sept. 30, 1891, to Dec. 31, 1891. . .		181,501	34,410	215,911
Jan. 1, 1892, to Mar. 31, 1892, . .		1,018,698	80,958	1,099,656
Apr. 1, 1892, to June 30, 1892. . .		2,796,941	274,593	3,071,534
Total.		4,132,009	407,581	4,539,590
July 1, 1892, to Sept. 30, 1892, . .	Second fiscal year under law of October 1, 1890.	3,337,036	274,331	3,611,367
Oct. 1, 1892, to Dec. 31, 1892, . .		5,274,434	864,305	6,138,739
Jan. 1, 1893, to Mar. 31, 1893. .		14,333,875	910,699	15,244,574
Apr. 1, 1893, to June 30, 1893. . .		19,425,336	1,323,091	20,748,427
Total.		42,370,681	3,372,426	45,743,107
July 1, 1893, to Sept. 30, 1893. . .	Third fiscal year under law of October 1, 1890.	13,158,982	702,181	13,861,163
Oct. 1, 1893, to Dec. 31, 1893. . .		14,048,471	633,574	14,682,045
Jan. 1, 1894, to Mar. 31, 1894. . .		24,815,641	1,497,920	26,313,561
Apr. 1, 1894, to June 30, 1894. .		25,397,731	1,355,265	26,752,996
Total.		77,420,825	4,188,940	81,609,765
July 1, 1894, to Sept. 30, 1894. . .	First fiscal year under law of August 28, 1894.	27,267,025	2,918,659	30,185,684
Oct. 1, 1894, to Dec. 31, 1894, . .		15,065,370	3,905,796	18,971,166
Jan. 1, 1895, to Mar. 31, 1895, . .		22,938,252	5,361,202	28,299,454
Apr. 1, 1895, to June 30, 1895. . .		37,985,496	4,886,149	42,871,645
Total		103,256,143	17,071,806	120,327,949

The various stamping companies of this country buy large quantities of black plates which are made

fiscal year ending June 30th,

1892, 1893, 1894, and 1895, respectively.

Terne plates.			Tin and terne plates.	Amount made from—		Total.
Lighter than 63 pounds per 100 square feet	63 pounds per 100 square feet and heavier.	Total.	Aggregate production.	American black plates.	Foreign black plates.	
Lbs. net.	*Lbs. net.*	*Lbs. net.*	*Lbs. net.*	*Lbs. net.*	*Lbs. net.*	*Lbs. net.*
442,552	231,881	674,433	826,922	785 547	41,375	826,922
1,046,879	147,031	1,193,910	1,409,821	1 200,661	209 160	1,409,821
1,907,869	201,700	2,109,569	3,209,225	2,132,082	1,077,143	3,209,225
4,795,236	333,981	5,129,217	8,200,751	5,178,263	3,022,488	8,200,751
8,192,536	914,593	9,107,129	13,646,719	9,296,553	4,350,166	13,646,719
6,875,958	465,400	7,341,358	10,952,725	5,920,082	5,032,643	10,952,725
12,684,646	933,106	13,617,752	19,756,491	8,043,449	11,713,042	19,756,491
13,803,461	518,364	14,321,825	29,566,399	11,371,968	18,194,431	29,566,399
18,115 741	679,419	18,795,160	39,543,587	18,264,225	21,279,362	39,543,587
51,479,806	2,596,289	54,076,095	99,819,202	43,599,724	56,219,478	99,818,202
12,807,230	477,087	13,284,317	27,145,480	8,794,027	18,351,453	27,145,480
12,252,823	416,373	12,669,196	27,351,241	15,907,669	11,443,572	27,351,241
11,486,747	460,103	11,946,850	38,260,411	27,765,162	10,495,249	38,260,411
19,046,617	666,722	19,713,399	46,466,335	33,501,344	12,964,991	46,466,335
55,593,417	2,020,285	57,613,702	139,223,467	85,968,202	53,255,265	139,223,467
15,932,495	2,227,454	18,159,949	48,345,633	33,506,175	14,839,458	48,345,633
12,647,045	1,652,819	14,299,864	33,271,030	24,894,802	8,376,228	33,271,030
13,683,645	2,628,042	16,311,687	44,611,141	39,156,348	5,454,793	44,611,141
20,671,031	4,030,593	24,701,624	67,573,269	63,019,609	4,553,660	67,573,269
62,934,216	10,538,908	73,473,124	193,801,073	160,576,934	33,224,139	193,801,073

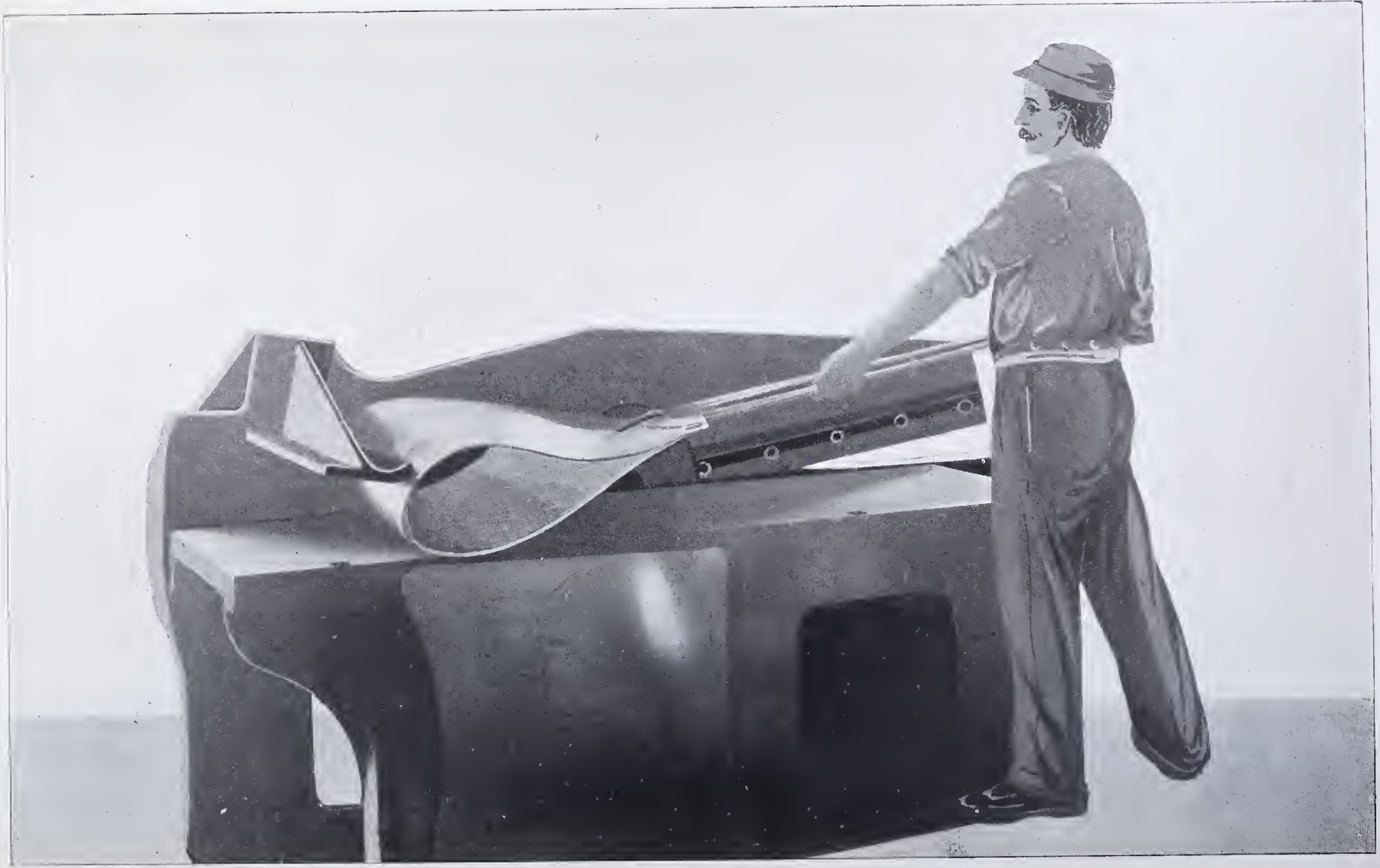
into articles and wares, and which are afterwards tinned. The quantity tinned in this manner for the 1895, was 6,285,340 pounds.

The following statement also compiled by Ira Ayer, special agent, Treasury department, is interesting as showing the production of black plates.

Summary of Fine Sheet Steel or Black Plates Produced in the United States on Black Plate Mills from July 1, 1891, to June 30, 1895.

Period.	Lighter than 63 pounds per 100 square feet.	63 pounds per 100 square feet and heavier.	Total.
Quarter ended—	Pounds.	Pounds.	Pounds.
September 30, 1891, ...	489,107	3,016,006	3,505,113
December 31, 1891, ...	679,584	4,593,416	5,273,000
March 31, 1892, ...	1,696,595	4,909,370	6,605,965
June 30, 1892, ...	4,761,641	6,067,537	10,829,178
Total, ...	7,626,927	18,586,329	26,213,256
Quarter ended—			
September 30, 1892, ...	4,821,180	4,202,277	9,023,457
December 31, 1892, ...	8,575,541	5,444,675	14,020,216
March 31, 1893, ...	13,287,507	6,361,848	19,649,355
June 30, 1893, ...	14,208,192	6,780,321	20,988,513
Total, ...	40,892,420	22,789,121	63,681,541
Quarter ended—			
September 30, 1893, ...	8,147,092	3,208,276	11,355,368
December 31, 1893, ...	17,197,664	2,482,246	19,679,910
March 31, 1894, ...	23,514,881	6,555,820	30,070,701
June 30, 1894, ...	32,449,205	5,415,696	37,864,901
Total, ...	81,308,842	17,662,038	98,970,880
Quarter ended—			
September 30, 1894, ...	26,681,855	5,570,511	32,252,366
December 31, 1894, ...	16,801,660	8,805,543	25,607,203
March 31, 1895, ...	37,751,102	11,388,665	49,139,767
June 30, 1895, ...	67,229,153	11,342,990	78,572,143
Total, ...	148,463,770	37,107,709	185,571,479

The production of tin and terne plates for the year ending June 30, 1896, is estimated to exceed 320,000,000 pounds, and the production of fine sheet steel and black plates by American black plate mills is estimated to exceed 350,000,000, large quantities of finished sheet iron not for tinning purposes having been produced during the



(No. 4) DOUBLING SHEARS, AND SHOWING PROCESS OF DOUBLING.

year. We have at the present time thirty-three tin plate works in the United States, completed and nearly all in operation, with a total of 174 black plate mills. Three of the works have no tinning plants, namely: Cumberland Steel and Tin Plate Company, of Cumberland, Md., Monongahela Tin Plate Company, of Pittsburgh, Pa., and the Reeves Iron Company, of Canal Dover, Ohio. We have also twenty-nine coating factories in the United States with a total number of 179 tinning sets. Of the black plate concerns, eleven are in the State of Pennsylvania, and of the coating factories, nineteen. There is a marked difference between the construction of English and American tin mills. The English and Welsh concentrate all the power for operating the works in a pair of condensing engines with one large fly wheel, while on the other hand, the Americans distribute the power by having an engine for each department. The American manufacturers have adopted what is known as the single stand of hot rolls; in England and Wales they have a roughing stand of rolls to each finishing stand of hot rolls. The American mills are also more substantially built, the foundations being much stronger, housings and rolls being much heavier. The standard housings in American mills weigh about eleven tons, while the average English housings is only about seven tons.

The rolls used in American mills are from 22 to 24 inches in diameter, with necks of 18 to 19 inches in diameter, while in English mills the rolls are from 16 to 18 inches in diameter, with necks as low as 14 inches in diameter. Much heavier work is, therefore, accomplished in the American mills. English practice consists generally in rolling packs 20x42 inches, from which three cuts are made, 20x14 inches, but in American mills nearly all packs are usually rolled 20x56 inches and cut in two, 20x28 inches. The adoption of the single stand of hot rolls in this country is due probably more to Mr. William Banfield than to any other person. The following is his statement, giving reasons for the adoption of the system:

"The adoption of the single stand of hot rolls in the American tin mills is not a new idea, as the writer has often seen it resorted to in Great Britain, in cases of emergency, and has heard of the regular practice of it in one mill there. At the same time, the adoption of it in this country was not by accident. There were several reasons for the adoption of it. First, to relieve the doubler of doubling the singles and recharging the plates in his furnace, this part of the work being very laborious, and owing to the excessive hot summer weather in this country it would be almost impossible to get the usual output of mills in the summer season. Second, to do as much work as possible on the bar mill, as there the rolls are cooled by water, and are not damaged by heat as on hot mills, thus relieving the hot rolls of breaking down heavy bars. (In Great Britain one bar is used,

usually seven inches wide and three-fourths inches in thickness. The American practice is to use two bars for same work, seven inches wide and three-eighths in thickness.) Third, to save the expense of keeping up two stands of rolls. Fourth, by using only one stand of rolls the rolls can be dressed in a roll lathe, whereas if two stands of rolls were used it would be too much expense and trouble to take so many rolls out to be re-turned (usually once a week). The turning of the rolls in Great Britain is almost always done in the housing and to the writer's observation very poorly. The foregoing were the principal reasons for the adoption of the single stand of rolls in this country. With practice, several other advantages were discovered and among them the following:

A greater output could be made at far less labor than was at first anticipated. It takes less physical labor to produce fifty-six boxes of ninety pound plates on an American mill than thirty-six boxes of the same weight on a mill using two stands of rolls and working out of one bar, as is usually done in Wales. The rolls all being dressed in the lathe, and dressed to a mechanical principle, uniformity for expansion allowed could be obtained to a nicety. Thus, if there are several mills at one works, the plates of mills for same size and substance could be mixed together indiscriminately and would all cold roll alike, but by dressing the rolls in the housing, as in Wales, and the work being done to no sure principle, and by different parties, each mill have different plates, verying in thickness in the middle and side, making it very difficult for cold rolling. (To have the sheets cold rolled good, is a very important part of the business.) Besides, there is nearly always trouble with two stands of rolls in having the sheets fit the finishing rolls after being partly worked in breaking-down rolls. This has always required a great deal of judgment on the part of the roller and takes considerable skill to profitably manipulate, making the work both mentally and physically harder. Another advantage we have found in operating on the American plan is that there are not as many waste sheets for stickers and still another advantage is the quality of the worked product being better, inasmuch as there is not as much grain in plates rolled on the American plan, as plates rolled this way will stand more and severe bending than plates worked on the English style.

I have given Mr. Bancroft's statement in detail, but do not intend by this to say that I fully agree with his ideas, as, personally, I am rather inclined to favor a system of two stands of rolls, i. e., a roughing stand of rolls apart from the finishing stand. It is somewhat singular that the earliest method of rolling plates was with a single stand of rolls. It was not until long after Mr. Cort had invented the rolling mill that the roughing rolls were introduced into the tin plate mills. At first but one stand of roughing rolls was tried for

two stands of finishing rolls. This system was in operation in the British works for over thirty-one years, after which one stand of roughing for each stand of finishing rolls was introduced and was found to work to better advantage than the old system, and shortly afterwards was generally adopted. There are yet, however, at some of the Welsh works several instances in which two stands of finishing rolls have but one stand of roughing rolls.

The following is a brief description of the process of tin plate making in American practice from the steel billet to the finished product.

For the reason that tin bars can be produced more economically at the large bessemer works than at bar mills connected with tin mills a large number of American tin mills are built without any bar mill attached to them. Nearly all the larger tin plate works however, have bar mills. For this reason, the making of bars is included in our description. In the first place we have the steel billet. This is placed in a furnace known as the bar mill heating furnace, see figure No. 1. In this furnace the billet is heated to almost a welding white heat, after which it is passed through the bar mill rolls, see figure No. 2, and reduced into a bar several feet long, about seven or eight inches wide and from one-half to three-fourths of an inch thick, according to the size of the plates required at so many pounds per foot. In some cases, the bar is now being rolled twelve inches wide. Directly the bar leaves the rolls it is plunged into a bath of cold water for the purpose of cleaning off the scale adhering to its surface. This is a very old practice. When cooled, the bar is taken to the shears and cut into the required lengths, determined by the width of plates to be rolled. Lately, at some works, the bar, directly it leaves the rolls is cut into the required lengths and piled one on top of the other and allowed to cool. It is found that but little scaling takes place by this operation. To make IC full weight plates the bar is cut into pieces about twenty-one inches long, each piece weighing about nineteen pounds. The length of the bar becomes the width of the plate, allowing one inch for trimming. The width of the bar after being properly heated is drawn out in the hot mill, see figure 3, about five-sixth inches in length. Two bars are worked in rolls at the same time. These two pieces are then "matched" together, doubled while yet hot, trimmed in the doubling shears, see figne 4, and by the doubler put back into the furnace. After they have again received the proper heat, the "pack is drawn out the second time to about fifty-six inches, doubled up once more, making eight sheets or layers in the pack. The pack is heated again and rolled as before to about fifty-eight inches long. We then have the finished pack, which measures about 22x58 inches, see No. 5. The pack is then trimmed in the squaring shears, see No. 6 and No. 7,

the rough edges are sheared off and the pack cut into two pieces 20x28 inches, or four pieces 14x20 inches (20x28 inches is now the most current size in the United States). As there are eight layers in each pack these layers must be separated, which is done by young men and women called openers. It depends upon the quality of the steel, and still more upon the skill of the roller and heater to bring out the pack in such a manner that the layers will not be welded together or "stick." If the packs open well we get thirty-two pieces of 14x20 inches out of the two pieces of bar. These thirty-two pieces weigh about thirty-one pounds, seven pounds of the two nineteen pound bars having been trimmed off as scrap, or trimmings. One hundred and twelve pieces are calculated to weigh 108 pounds. Where other sizes and thicknesses are to be produced, the weight of the same must be determined in the bar mill by rolling the bar lighter or heavier and cutting the pieces of bar to the proper length in the bar shears.

Black Pickling.

The plates, after being separated, are passed to the pickling room, where they are cleaned of the scales formed during heating and rolling, see figure No. 8. The process consists in immersing the plates in heated dilute sulphuric acid, and then cleaning away all traces of the acid by immersing the plates in clean water. The process is now generally done by the aid of patent pickling machines. The plates are placed in a cradle or receptacle which rises and drops or revolves, according to the construction of the machine, by hydraulic or steam power, within a tank, so as to make the liquid run between the sheets. After being subjected to the action of the acid for some time, the cradle is again lifted by hydraulic or steam power and dropped into another tank containing an ample supply of clean water only, the cradle shifting as in the acid tank, so that the water may rush between the sheets and wash away all trace of the acid. When taken out the plates are bright and clean.

First Annealing.

The plates are now ready for the first annealing, see figures Nos. 9 and 10. For this purpose they are carefully packed in cast iron or wrought iron "pans," with a flange all around, and are covered with cast or wrought iron covers. The space between the cover and the flange is filled with sand to exclude the air. The packed "pans" and annealing "pots" are then run into an annealing furnace. Here they are kept for about ten or twelve hours at a dull red heat until the heat has thoroughly soaked into the packs. After being taken out, the whole is allowed to cool before being unpacked.

Cold Rolling and Annealing.

The plates are next taken out to the "cold rolling" department. They are passed through cold rolls three, four or more times, as may be deemed necessary. The rolls are highly polished and must be set very accurately in order to give the plates a perfectly flat "set" and a well-polished surface. After this rolling the plates are then annealed, at a lower temperature than the first time, as the surface would be damaged by the slightest degree of sticking or adhering together.

White Pickling.

To finally prepare the plates for tinning they are again treated in a bath of acid and water. Then they are again pickled as before, excepting that the liquid is much weaker, after which they are placed in a trough, then taken in hand singly, and, if necessary, scoured with sand and hemp in pads, before being delivered to the "tinman."

Tinning, Palm Oil Process.

Now comes the last process. The plates are iron or steel so far. They next reach the tin house, and are placed in a trough of clean water ready for the tinman, who takes them up singly and puts them into a grease pot containing palm oil, to soak. After being there a short time the tinman places the plates in a large iron pot containing molten tin, with a covering of palm oil. When the tinman has performed his part, the plates are handed over to the "washman," whose pot contains more molten tin. After they are soaked a little while in his pot, he raises them with tongs on to a "hob," as he requires them, brushes the surface of each side of the plate and, after again dipping them into the pot containing molten tin, they are sent through the rolls, which work in a large pot containing palm oil. A boy, called the "riser," lifts the plates as they pass through the rolls of the tinning machine, and places them in a rack to set and cool, see No. 11. The three figures on the right represent the tinman, washman and riser. The centre figure, the washman, is in the act of brushing a plate. The girls near by are in the act of scouring, dusting and cleaning a plate.

Dusting and Boxing.

The plates are next taken in hand by young women who rub them in bins or boxes of bran or sharps, one after another, which takes off the grease. Other young women give them another rubbing with sheepskin duster. At most of the American works the cleaning of the plates is done by machines. The plates, after being cleaned, are

taken to the assorting room, where they are carefully inspected and assorted by experienced workmen, see Nos. 12 and 13. All plates are classed as perfects or primes, and defective plates as wasters. They are next counted and made up into boxes, i. e., in bundles of the number of plates for each box according to quality. Finally, the boxers or packers take charge of them, and put them into suitable boxes (the better quality having a sheet of tissue paper put between each plate) when they are securely nailed up, branded and are ready for shipment.

Tinning, Acid Process.

The distinguishing feature of this process from that of the palm oil or old method process is that the black plates, after having passed through all the necessary processes for being tinned, are passed through a solution of muriatic acid and zinc, "chloride of zinc," which floats on the top of the molten tin and are confined in what is known as the acid pot.

The plates, in passing through the acid solution, are powerfully affected by galvanic action and as they are immersed into the molten tin the metal will adhere to the surface of the plates very readily. When the plates have thus been tinned they are drawn through palm oil. There seems to be an impression that the acid process is used only in connection with what are known as patent tinning machines.

This, however, is not correct, as the acid pot is used with the Morewood and all the old established machines.

The acid process is almost in general use in Wales and is being extensively adopted in this country.

Figures 14 and 15 represent patent tinning machines which are operated on both the acid and palm oil process. It will be observed that but two men are at work at each machine, the tinman, or dipper, and the riser boy.

It is supposed that tin plates made by the acid process are of inferior quality. Particles of the acid, it is argued, adhere to the face of the metal and remain there under the coating of tin. This, however, is a matter of uncertainty, as it is known that some of the highest and best grade plates have been made by the acid process. So far as the tinning of plates is concerned, it is the writer's opinion that the chief causes of the inferior plates are the poor quality of steel used in the making of plates and the very small quantity of tin used in the coating process. The lowest quantity of tin used in the American plants in making the lowest grade plates has been from two and one-half to three per cent., while in the Welsh works less than two per cent. has been used. It is possible that plates made by the acid process may not be as durable as those made by the palm

oil process, but for all general purposes they are quite as serviceable, and if none but a good quality of steel was used in the making of plates, and a sufficient quantity of tin used in the coating of the plates, the probabilities are that complaints would soon cease.

The Bureau presents

THIS TABLE SHOWS Imported Tin Plates, Terne Plates and Taggers' Tin from 1883 to 1895; also Drawback

Year ending June 30.	Quantity—Pounds.	Value—Dollars.	Rate of Duty.
1883, ...	453,724,126	16,688,276 00	$1\frac{1}{10}$c. per pound.
1884, ...	527,881,321	18,931,073 00	1c. per pound.
1885, ...	505,559,076	16,610,105 00	1c. per pound.
1886, ...	574,098,405	17,719,957 00	1c. per pound.
1887, ...	570,643,389	16,883,814 00	1c. per pound.
1888, ...	632,224,296	19,034,821 00	1c. per pound.
1889, ...	727,945,972	21,002,209 00	1c. per pound.
1890, ...	674,664,458	20,746,427 00	1c. per pound.
1891, ...	1,057,711,501	36,355,580 00	1c. per pound.
1892, ...	5,443,281	209,443 00	1c. per pound.
	397,587,504	11,583,856 00	$2\frac{2}{10}$c. per pound.
1893, . . .	613,679,990	17,252,219 00	$2\frac{2}{10}$c. per pound.
1894, ...	436,480,713	11,655,638 75	$2\frac{2}{10}$c. per pound.
1895, ...	532,802,889	12,869,342 00	$2\frac{2}{10}$c. per pound. $1\frac{2}{10}$c. per pound

the following tables:

entered for Consumption; Duties collected thereon; and Import Prices, on Exports from 1883 to 1895.

Amount of duty collected—Dollars.	Average value per unit of quantity—Dollars.	Quantity—Pounds.	Drawback—Dollars.
4,990,965 00	.037	82,765,370	910,419 07
5,278,813 00	.036	97,115,089	974,150 89
5,055,591 00	.033	127,125,903	1,271,259 03
5,740,984 00	.031	136,539,316	1,365,393 16
5,706,434 00	.030	123,203,627	1,232,036 27
6,322,243 00	.030	108,271,542	1,082,715 42
7,279,460 00	.029	166,087,740	1,660,877 40
6,746,644 58	.031	150,112,007	1,507,120 07
10,577,115 01	.034	149,599,649	1,495,996 49
54,433 00	.001	107,576,376	2,366,680 35
8,746,925 00	.029		
13,500,960 00	.028	121,708,890	2,677,595 57
9,609,175 47	.027	a	a
6,393,634 67	.024	126,777,800	1,523,333 60

(a) No returns.

THIS TABLE is an Extract from the Official Report of the Bureau of Statistics, U. S. Treasury Department, for May, 1896, showing imports of Tin Plate, Terne Plate, Taggers Tin, and Tin in bars, blocks, pigs, etc., for the months of May, 1895 and 1896, and the eleven months ending May, 1895, and May, 1896, and their corresponding value.

Imports.

	May—				Eleven Months ending May—			
	1895.		1896.		1895.		1896.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
Duty. Tin Plate, Terne Plate and Taggers Tin, imported from—	*Lbs.*	*Dols.*	*Lbs.*	*Dots.*	*Lbs.*	*Dols.*	*Lbs.*	*Dols.*
United Kingdom, . . .	33,608,413	787,136	24,956,477	584,888	468,678,469	11,257,000	362,426,657	8,433,706
British North America.	1,268	46	401,905	11,086	950,148	24,777	1,165,137	32,647
Other Countries, . . .	. . . . .	. . . .	35	2	170,069	4,377	162,509	3,918
Total.	33,609,681	787,182	25,358,417	595,976	469,798,686	11,286,154	363,754,303	8,470,271
Free. Tin in bars, blocks, pigs, etc., imported from—								
United Kingdom, . . .	1,895,403	293,145	1,471,237	195,377	18,866,589	2,719,555	14,697,444	2,031,835
Netherlands, ...	333,240	50,201	850,118	112,272	4,475,593	648,128	8,496,368	1,176,923
East Indies, ...	728,641	95,125	392,527	50,891	17,564,711	2,481,671	19,099,419	2,532,616
Other Asia and Oceanica, ...	112,000	15,430	42,257	5,567	3,265,382	460,000	2,370,066	322,533
Other Countries, . . .	81,255	11,267	60,592	8,445	147,113	20,484	674,699	96,216
Total, ...	3,150,539	465,168	2,816,731	372,552	44,319,388	6,329,838	45,337,996	6,160,123

The following table, compiled by Mr. Swank, of the American Iron and Steel Association, from quotations in the New York Iron Age, gives the wholesale prices per box of "full weight" 100 pounds of imported coke bessemer tinplates, IC, 14x20, at New York, freight and duty paid, from January, 1890, to March, 1896.

Months.	Price.	Months.	Price.	Months.	Price.
January, 1890,	$4 72	February,	$5 30	March,	$5 20
February,	4 61	March,	5 30	April,	5 19
March,	4 46	April,	5 30	May,	5 15
April,	4 42	May,	5 30	June,	5 14
May,	4 42	June,	5 29	July,	5 12
June,	4 43	July,	5 25	August,	5 12
July,	4 49	August,	5 21	September,	5 10
August,	4 66	September,	5 29	October,	4 09
September,	5 17	October,	5 27	November,	4 10
October,	5 49	November,	5 45	December,	4 00
November,	5 44	December,	5 49	January, 1895,	3 96
December,	5 24	January. 1893,	5 35	February,	3 87
January, 1891,	5 35	February,	5 35	March,	3 80
February,	5 47	March,	5 44	April,	3 80
March,	5 36	April,	5 50	May,	3 80
April,	5 26	May,	5 50	June,	3 80
May.	5 17	June,	4 41	July,	3 82
June,	5 35	July,	5 31	August,	3 90
*July,	5 28	August,	5 30	September,	3 95
August,	5 39	September,	5 26	October,	4 00
September,	5 43	October,	5 37	November,	3 95
October,	5 37	November,	5 35	December,	3 82
November,	5 31	December,	5 32	January, 1896,	3 86
December,	5 30	January, 1894,	5 27	February,	3 88
January, 1892,	5 30	February,	5 22	March,	3 85

*The Tin-Plate section of the tariff law of October, 1890, went into effect July 1st, 1891. The duty preceding that date was 1 cent per pound.

Tinplate Manufacture in Pennsyl

Note.—In considering these returns, it must be borne in mind that tin plate does works may turn out a product of tin or terne plate made from its own manufacture plate manufacturers, and the latter in contradistinction as "dippers." Pennsyl ever, made black plate only, did no tinning. Of the other ten, nine were operated vania had nineteen at the close of 1895, seventeen of which had been in operation works and the following one the tin plate dipping works.

BLACK PLATE

Considered in groups of two plants, 10 in all. (Office numbers.)	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Quantity, in pounds, of finished Tin and Terne plate.	Quantity, in pounds, of Blockplate not tinned.
2767 . . . . . 2480	290	290	$131,266 17	12,654,000	286,000
1923 . . . . 2766 . . .	211	394	154,939 16	12,880,000	4,272,000
487 . . . . . 1178	227	575	255,359 30	13,118,000	8,126,000
1191 . . . . 51	236	724	314,987 70	10,850,000	19,672,000
673 . . . . 932	200	491	207,142 90	. . . . .	22,898,360
Total, ...	229	2,474	$1,063,695 23	49,502,00	55,254,360

DIPPING

No. of works considered.					
17.	244	557	$188,224 32	54,873,636	

RESUME—BLACK PLATE AND

27.	231¾	3,031	$1,251,919 55	104,375,636	55,254,360

VANIA for the calendar year 1895.

not mean sheets of tin, but sheets of iron or steel plated with tin, and that a tin plate of black plate, or may buy the plate and tin it. The former are known as black vania, at the close of 1895, had eleven black plate works, one establishment, how- for at least a portion of the year. Of the tin works known as "dippers," Pennsyl- during all or some part of the year. The first table represents the black plate tin

WORKS.

Total quantity, in pounds, of finished and unfinished plate.	Value of the finished Tin and Terne plate.	Value of the Black plate not tinned.	Total value of entire product.	Average earnings for the number of days in operation.	Average daily wages.
12,940,000	$407,104 74	$6,864 00	$413,968 74	$452 61	$1 56
17,152,000	445,000 00	113,225 59	558,225 59	393 25	1 86
21,244,000	467,220 00	213,416 19	680,636 49	523 05	1 95
30,522,000	455,000 00	502,588 64	957,588 61	435 06	1 84
22,899,360	. . . . .	642,504 94	642,501 94	421 88	2 11
104,757,360	$1,774,324 74	$1,478,599 36	$3,252,924 10	$429 95	$1 87

WORKS.

54,873,636	$2,463,494 68	. . . . .	$2,463,494 68	$337 92	$1 38

DIPPING WORKS COMBINED.

159,630,996	$4,237,819 42	$1,478,599 36	$5,716,418 78	$413 03	$1 78

It will be seen by the foregoing tables that in the ten tin works of Pennsylvania turning out their own black plate during 1895, there were employed 2,474 persons, including skilled and unskilled labor and the women and boys connected with the dipping departments; that the average time they were employed was 229 days; that they were paid in wages one million sixty-three thousand six hundred and ninety-five dollars and twenty-three cents ($1,063,695.23), an average per capita for the 229 days of four hundred and twenty-nine dollars and ninety-five cents ($429.95), or an average of one dollar and eighty-seven cents ($1.87) per day. This rate for full time, or say, 300 days, would give an average yearly earning of five hundred and sixty-one dollars ($561) for all persons employed.

The low average of days in operation can be accounted for not only because many of the plants were only started during 1895, but for the reason that if for any cause a shut-down occurred, the depressed condition of the tin plate market, the high prices of steel billets, together with the reduced duty on imports, offered little encouragement for a speedy resumption.

They show a production of finished tin and terne plate of forty-nine million five hundred and two thousand pounds (49,502,000), and a value of one million seven hundred and seventy-four thousand three hundred and twenty-four dollars and seventy-four cents ($1,774,324.74), an average of seventy-one dollars and sixty-eight cents ($71.68) per net ton.

They show an additional production of fifty-five million two hundred and fifty-four thousand three hundred and sixty (55,254,360) pounds of black plate not tinned, and a value of one million four hundred and seventy-eight thousand five hundred and ninety-nine dollars and thirty-six cents ($1,478,599.36), or an average of fifty-three dollars and fifty-two cents ($53.52) per net ton.

They show a total production for these ten tin plate works of one hundred and four million, seven hundred and fifty-seven thousand three hundred and sixty (104,757,360) pounds, and a total value of three million two hundred and fifty-two thousand nine hundred and twenty-four dollars and ten cents ($3,252,924.10).

In the first two plants considered, that is in numbers 2767 and 2480, where nearly 98 per cent. of the entire production was tinned, the average daily wage was one dollar and fifty-six cents ($1.56). In the next three groups, with only 53 per cent. of the production tinned, the average daily wage was one dollar and eighty-eight cents ($1.88). In the last group, numbers 673 and 932, where none of the plate was tinned, the average wage was two dollars and eleven cents ($2.11).

The daily production to each person employed, and proportion tinned by each plant, was as follows:

	Average Daily Production.	Proportion tinned.
Plant No. 2,767,	116 pounds.	All tinned.
Plant No. 2,480,	190 pounds.	96 per cent.
Plant No. 1,923,	189 pounds.	80 per cent.
Plant No. 2,766,	232 pounds.	69 per cent.
Plant No. 1,178,	139 pounds.	68 per cent.
Plant No. 487,	192 pounds.	56 per cent.
Plant No. 1,191,	201 pounds.	45 per cent.
Plant No. 51,	138 pounds.	11 per cent.
Plant No. 673,	220 pounds.	None tinned.
Plant No. 932,	237 pounds.	None tinned.

The corresponding value of daily production to each person employed, and the proportionate cost of labor, was as follows:

	Value of Daily Production.	Cost of labor.
Plant No. 2,767,	$3 68	$1 30
Plant No. 2,480,	6 13	1 81
Plant No. 1,923,	6 05	1 91
Plant No. 2,766,	7 70	1 85
Plant No. 1,178,	4 24	1 63
Plant No. 487,	6 42	2 35
Plant No. 1,191,	6 73	1 85
Plant No. 51,	3 58	1 82
Plant No. 673,	6 31	1 95
Plant No. 932,	6 61	2 16

The tonnage value of production and percentage of cost of labor was:

	Average value per ton.	Labor—relative percentage.
Plant No. 2,767,	$63 27	35 2 per cent.
Plant No. 2,480,	64 44	29.5 per cent.
Plant No. 1,923,	63 95	31.7 per cent.
Plant No. 2,766,	66 40	24 per cent.
Plant No. 1,178,	61 04	38.5 per cent.
Plant No. 487,	66 80	36.6 per cent.
Plant No. 1,191,	66 55	27.7 per cent.
Plant No. 51,	51 90	50.9 per cent.
Plant No. 673,	57 14	30.9 per cent.
Plant No. 932,	57 45	32.1 per cent.

The dipping plant table shows that the seventeen tin dipping establishments in operation during 1895 those that do not make, but buy the black plate and tin it, turned out a finished product of tin and terne plate of fifty-four million eight hundred and seventy-three thousand six hundred and thirty-six pounds, (54,873,636), all of which but about two per cent. was made from American black plate, with a corresponding value of two million four hundred and sixty-three thousand four hundred and ninety-four dollars and sixty-eight cents ($2,463,494.68), an average of eighty-nine dollars and sixty-two cents ($89.62) per net ton. This increased value over that of the finished product of the black plate works is accounted for largely owing to the fact that a material part of the product was high grade roofing tin. Add this 54,873,636 pounds of tin and terne plate to the 49,502,000 pounds of tin and terne plate turned out by the black plate makers, and a total product is shown of one hundred and four million three hundred and seventy-five thousand six hundred and thirty-six pounds (104,375,636) of finished tin plate in Pennsylvania for the year ended December 31, 1895, with a corresponding value of four million two hundred and thirty-seven thousand eight hundred and nineteen dollars and forty-two cents ($4,237,819.42), or an average value of eighty-one dollars and twenty cents ($81.20) per net ton.

Inasmuch as in the tin dipping establishments alone the proportion of unskilled labor and women and boys is greater than in the works where black plate is manufactured a reduced per capita of wages necessarily follows. In the 17 dipping works, 557 persons were employed. The average number of days in operation was 244,

and the aggregate amount of wages paid, was one hundred and eighty-eight thousand, two hundred and twenty-four dollars and thirty-two cents ($188,224.32), an average to each person employed for the 244 days of three hundred and thirty-seven dollars and ninety-two cents ($377.92), or one dollar and thirty-eight cents ($1.38) per day.

Add to the $1,063,695.23 paid out in wages by the ten tin plate works manufacturing black plate, covering their finished and unfinished product, the $188,224.32 paid out in wages by the seventeen dippers, and the result is $1,251,919.55. The black plate manufacturers employed 2,474 persons, the dippers 557, making 3,031 persons to whom this $1,251,919.55 was paid for an average time of 231¾ days, or a per capita, skilled and unskilled in the black plate works and dipping works combined of $413.03, an average for all of $1.78 per day.

From the following list of tin works and dipping establishments in the United States it will be noticed that there are eleven that manufacture black plate in Pennsylvania, while the tabulations only show ten. One, the Star, of Pittsburgh, was not completed in time for operation during 1895.

It will also be noticed that Pennsylvania is accredited with nineteen dipping establishments, while only seventeen are tabulated. Sixteen only of those tabulated were of the nineteen appearing on the list. One of the seventeen, the American Tin Plate and Machine Manufacturing Company, of Linfield, Montgomery county, having since the close of the year removed to Canal Dover, Ohio. Neither the Aliquippa Tin Plate Company, the Apollo Iron and Steel Company nor the Laufman Tin Plate Company turned out any tin plate during 1895.

List of Tin Works in the United States.

Name of Firm.	Location.	No. of hot mills.
Aetna-Standard Iron and Steel Company,	Bridgeport, O.,	6
American Tin Plate Company,	Elwood, Ind.,	16
Atlanta Steel and Tin Plate Company,	Atlanta, Ind.,	2
Baltimore Steel, Iron and Tin Plate Co.,	Baltimore, Md.,	1
Beaver Tin Plate Co.,	Lisbon, O.,	1
Blairsville Rolling Mill and Tin Plate Co.,	Blairsville, Pa.,	2
Britton Rolling Mill Company,	Cleveland, O.,	1
Crescent Sheet and Tin Plate Company,	Cleveland, O.,	4
Canonsburg Iron and Steel Company,	Canonsburg, Pa.,	4
*Cumberland Steel and Tin Plate Company,	Cumberland, Md.,	4
Ellwood Tin Plate Company,	Ellwood City, Pa.,	4
Falcon Sheet and Tin Plate Company,	Niles, O.,	4
Great Western Tin Plate Company,	Joliet, Ill.,	3

*Make black plates only.

Name of Firm.	Location.	No. of hot mills.
Irondale Steel and Iron Company,	Middletown, Ind.,	6
LaBelle Iron Works,	Wheeling, W. Va.,	4
Lalance & Grosjean Manufacturing Co.,	Harrisburg, Pa.,	3
Laughlin Nail Company,	Martin's Ferry, O.,	4
Marshall Bros. & Co.,	Philadelphia, Pa.,	4
*Monongahela Tin Plate Company,	Pittsburgh, Pa.,	9
Montpelier Sheet and Tin Plate Company,	Montpelier, Ind.,	6
Morewood Company (The),	Gas City, Ind.,	8
Morton Tin Plate Company,	Cambridge, O.,	3
National Tin Plate Company,	Anderson, Ind.,	6
New Castle Steel and Tin Plate Company,	New Castle, Pa.,	18
Pennsylvania Tin Plate Company,	New Kensington, Pa.,	4
Pittsburgh Tin Plate Works,	New Kensington, Pa.,	3
*Reeves Iron Company,	Canal Dover, O.,	3
Somerton Tin Plate Works,	Brooklyn, N. Y.,	4
Star Tin Plate Company,	Pittsburgh, Pa.,	8
Stickney Iron Company,	Baltimore, Md.,	2
St. Louis Stamping Company,	St. Louis, Mo.,	7
U. S. Iron and Tin Plate Manufacturing Co.,	Demmler, Pa.,	5
Wallace, Banfield & Co.,	Irondale, O.,	7
Total,		175

Works Building.

Connellsville Sheet Iron and Tin Plate Co.,	So. Connellsville, Pa.,	4
Washington Sheet and Tin Plate Mills,	Washington, Pa.,	3
Ohio River Sheet and Tin Plate Company,	Remington, Pa.,	4
Total,		11

List of Dipping Plants in the United States.

Name of Firm.	Location.	Tinning sets.
Alcania Tin and Terne Plate Company,	Youngstown, O.,	2
Aliquippa Tin Plate Company,	Aliquippa, Pa.,	3
American Tin and Terne Plate Company,	Philadelphia, Pa.,	5
American Tin Plate, Machine and Mfg. Co.,	Canal Dover, O.,	13
Apollo Iron and Steel Company,	Apollo, Pa.,	3
Buhl Stamping Company,	Detroit, Mich.,	3
Cadwallader, C. W.,	Hazlewood, Pa.,	4
Chicago Stamping Company,	Chicago, Ill.,	5
Cincinnati Corrugating Company,	Piqua, O.,	1
Duquesne Tin Plate Works,	Pittsburgh, Pa.,	2
Elwood Tin Plate Company,	Elwood, Ind.,	37
Ferguson Tin Plate Company,	East Liberty, Pa.,	3

* Make black plates only.

Name of Firm.	Location.	Tinning sets.
Follansbee Bros. Co.,	Pittsburgh, Pa.,	4
Gummey, McFarland & Co.,	Philadelphia, Pa.,	4
Hamilton, John,	Glenwood, Pa.,	3
Laufman Tin Plate Company,	Butler Junction, Pa.,	4
McDonald (The James) & Sons Co.,	Cincinnati, O.,	2
Merchant & Co., Incorporated,	Philadelphia, Pa.,	8
Menrer Bros. Co.,	Brooklyn, N. Y.,	8
Nivin & Hassard Tin Plate Co., Limited,	Philadelphia, Pa.,	3
Filley Tin Plate Company,	Norristown, Pa.,	8
Norton Bros.,	Maywood, Ill.,	18
Norton Tin Plate and Can Company,	Baltimore, Md.,	16
Old Dominion Iron and Nail Works Co.,	Richmond, Va.,	2
Phillips Tin Plate Company,	Philadelphia, Pa.,	5
Philadelphia Tin Plate Company,	Philadelphia, Pa.,	3
Pollock & Co., Ltd.,	Philadelphia, Pa.,	
Reading Tin Plate Company,	Reading, Pa.,	2
Record Manufacturing Company,	Conneaut, O.,	2
Scattergood, Henry W.,	Philadelphia, Pa.,	4
Simpson, W. T., & Co.,	Cincinnati, O.,	3
Taylor (N. & G.) Co.,	Philadelphia, Pa.,	22
Wheeling Corrugating Company,	Wheeling, W. Va.,	4
Total,		206

The following separation of Pennsylvania's tin works from the general list may be of interest, and that the geographical location may be more readily seen, their locations are given alphabetically.

Tin Works—Manufacture Black Plate.

Location.	County.	Plant.
Blairsville,	Indiana,	Blairsville Rolling Mill & Tin Plate Co.
Canonsburg,	Washington,	Canonsburg Iron and Steel Company.
Demmler,	Allegheny,	U. S. Iron & Tin Plate Manufacturing Co.
Ellwood City,	Lawrence,	Ellwood Tin Plate Company.
Harrisburg,	Dauphin,	Lalance & Grosjean Manufacturing Co.
New Castle,	Lawrence,	New Castle Steel and Tin Plate Company,
New Kensington,	Westmoreland,	Pennsylvania Tin Plate Company.
New Kensington,	Westmoreland,	Pittsburg Tin Plate Works.
Philadelphia,	Philadelphia,	Marshall Brothers & Company.
Pittsburg,	Allegheny,	Monongahela Tin Plate Company.
Pittsburg,	Allegheny,	Star Tin Plate Company.

Works Building.

Remington Station,	Allegheny, . .	Ohio River Sheet and Tin Plate Company.
So. Connellsville, .	Fayette, ...	Connellsville Sheet Iron & Tin Plate Co.
Washington, ...	Washington, .	Washington Sheet and Tin Plate Mills.

Dipping Plants, Tin and Terne Plate Made from Purchased Black Plate.

Location.	County.	Plant.
Aliquippa, ...	Allegheny, . .	Aliquippa Tin Plate Company.
Apollo, ...	Armstrong, . .	Apollo Iron and Steel Company.
Butler Junction, . .	Allegheny, . .	Laufman Tin Plate Company.
East Liberty, . . .	Allegheny, . .	Ferguson Tin Plate Company.
Glenwood, ...	Allegheny, .	John Hamilton.
Hazlewood,.	Allegheny, . .	C. W. Cadwallader.
Norristown, ...	Montgomery, .	Filley Tin Plate Company.
Philadelphia, . . .	Philadelphia, .	American Tin and Terne Plate Company.
Philadelphia, . . .	Philadelphia, .	Gummey, McFarland & Co.
Philadelphia, . . .	Philadelphia,	Merchant & Co., Incorporated.
Philadelphia, . . .	Philadelphia, .	Nivin & Hassard Tin Plate Co., Limited.
Philadelphia, . . .	Philadelphia, .	Phillips Tin Plate Company.
Philadelphia, . .	Philadelphia, .	Philadelphia Tin Plate Company.
Philadelphia, . .	Philadelphia, .	Pollock & Co.
Philadelphia, . . .	Philadelphia, .	Scattergood, Henry W.
Philadelphia, . . .	Philadelphia, .	Taylor (N. & G.) Co.
Pittsburg, ...	Allegheny, . .	Duquesne Tin Plate Works.
Pittsburg, ...	Allegheny, . .	Follansbee Brothers & Co.
Reading, ...	Berks, ...	Reading Tin Plate Company.

It will be observed that with the exception of one at Philadelphia and one at Harrisburg, all of the tin works in Pennsylvania manufacturing black plate are located in the western part of the State, and that of the nineteen dipping plants in the State, nine are located at Philadelphia, seven in Allegheny county, one in Armstrong county, one in Berks county and one in Montgomery county.

Recapitulation by States (Completed Works Only). Black Plate Works.

State.	Number of plants.	Number of hot mills.
Pennsylvania,	11	64
Ohio,	9	39
Indiana,	6	44
Maryland,	3	10
Missouri,	1	7
New York,	1	4
Illinois,	1	3
West Virginia,	1	1
Total,	33	175

Dipping Works.

State.	Number of plants.	Number of tinning sets.
Pennsylvania,	*19	99
Ohio,	6	23
Illinois,	2	23
Indiana,	1	37
Maryland,	1	16
Michigan,	1	3
New York,	1	8
Virginia,	1	2
West Virginia,	1	4
Total,	33	206

The above shows that Pennsylvania has one-third of the black plate works in the United States and 36 per cent. of the hot mills, 57 per cent. of the dipping works in the United States and over 43 per cent. of the tinning sets.

* One dipping works not reporting number of tinning sets

The following is the scale of wages now in force at the tin and black plate mills of the United States.

List of wages, Amalgamated Association of Iron and Steel Workers of the United States:

Tin and Black Plate Mills.

When 100 lbs. IC tin plate is selling at a ratio of one-fourth ($\frac{1}{4}$) the price per ton of 2,240 lbs. of 4x4 steel billets, the wage list as given below shall be paid, but in case of a departure in either the selling price of steel billets or a ton of 2,000 lbs. of tin plate, that will change the above ratio two dollars per ton or more, then the wage list shall advance two (2) per cent. for each two dollars from said ratio, and decline two (2) per cent. for each two dollars decline to said ratio. It is understood that the list of wages given below is the minimum for the year beginning July 1, 1895, and ending June 30, 1896.

Gauges.	Rolling Steel. 2,240 lbs.	Doubling.	Heating.	Shearing on jaw or crocodile shears, and job work on squaring shears.
Nos. 8 to 11,	$2 04	$0 93	$0 85	
Nos. 12 and 13,	2 13	96	90	$0 99
Nos. 14 and 15,	2 45	1 10	1 07	
Nos. 16 and 17,	3 24	1 46	1 32	
Nos. 18 to 20,	3 62	1 63	1 48	1 59
Nos. 21 to 24,	4 07	1 86	1 63	
Nos. 25 and 26,	4 57	2 07	1 88	
Nos. 27 and 28,	4 63	2 21	2 05	1 71
Nos. 29 and 30,	5 30	2 70	2 48	1 76
No. 31,	5 40	2 84	2 66	1 78
No. 32,	5 65	2 97	2 79	1 88
No. 33,	5 99	3 13	2 88	1 98
No. 34,	6 64	3 33	3 15	2 20
No. 35,	6 97	3 52	3 34	2 30
No. 36,	7 43	3 60	3 46	2 46
No. 37,	7 52	3 65	3 52	2 49
No. 38,	7 60	3 72	3 58	2 52

Black Plate used for Tinning Only.

Gauges.	Rolling Steel 2,240 lbs.	Doubling.	Heating	Shearing on Jaw or Crocodile Shears & Job Work on Squaring Shears.
Nos. 21 to 24,	$3 96	$1 86	$1 63	
Nos. 25 and 26,	4 00	1 86	1 69	$1 52
Nos. 27 and 28,	4 01	1 96	1 82	
Nos. 29 and 30,	4 50	2 36	2 17	1 54
No. 31,	4 59	2 48	2 33	1 56
No. 32,	4 80	2 60	2 44	1 65
No. 33,	5 09	2 74	2 52	1 73
No. 34,	5 64	2 91	2 76	1 93
No. 35,	5 92	3 08	2 92	2 01
No. 36,	6 32	3 15	3 03	2 15
No. 37,	6 39	3 19	3 08	2 18
No. 38,	6 46	3 26	3 13	2 21

1. Thirteen (13) per cent. less than above prices for iron, except Shearman.

2. Shearman on modern squaring shears to receive one (1) dollar per turn, but for twenty-five gauge and lighter eighty-seven and one half (87½) cents per turn shall be paid. This clause only applies for shearing tin plate.

Extras.

3. Twenty (20) per cent. added for changed steel and twenty (20) per cent. on net price of iron.

4. Seventeen (17) per cent. added for pickle-finished iron and steel, except Shearman.

5. For all sheets sheared into circles on tin and black plate mills where the loss exceeds ten (10) per cent. twenty (20) per cent. extra shall be paid.

6. That all sheets cut down to smaller sizes on tin and black plate mills be paid for at scale prices.

7. All sheets rolled on tin mills over fourteen (14) square feet, shall be paid for at sheet mill prices.

8. Where improved squaring shears are used, the company shall pay for grinding the knives.

9. Catchers on tin and black plate mills to receive 23 per cent. of roller's statement.

10. Eight (8) hours shall be a day's work on tin and black plate mills.

Output.

The limit of a turn's work of eight hours shall be as follows:

On gauge.	100 lbs.
No. 24,	6,650
No. 25,	6,250
No. 26,	5,850
No. 27,	5,650
No. 28,	5,150
No. 29,	5,350
No. 30,	5,250
No. 31,	5,050
No. 32,	4,850
No. 32,	4,650
No. 34,	4,450

Where twenty-eight gauge is worked, matched, eight (8) sheets to the pack, fifty-six hundred and fifty (5,650) pounds shall be the limit.

Scale of Prices for Morewood Stacks.

	Tinning.	Washing.	Catching.
Coke,	11c.	11c.	3¾c.
B. Charcoal,	12c.	12c.	4c.
Charcoal,	12c.	12c.	4c.
Double Rolling,	14c.	14c.	4c.
Heavy Coating,	12c.	12c.	4c.
Old Style,	15c.	15c.	4c.

Standard.—A box of 14x20 containing 112 sheets=31,360 square inches, to be the standard.

All boxes weighing over 136 lbs. to be paid for as over weight.

Owing to the labor troubles in the British tin plate works, there is such a lack of uniformity in wages paid that nothing of a governing character could be found of a later date than this list of 1874, but it is safe to say that the wages at present paid in Wales are from 10 to 25 per cent. below this.

List of 1874 Governing Wages in the British Tin Works, Agreed to Between the Manufacturers and the Tin Workers' Union.

Black Plate Mills.

	s.	d.	U. S. money		
Roller, ...	3	5	(84 cents)	per dozen	boxes
Doubler, ...	2	9	(67 cents)	do.	do.
Heater, ...	2	7	(63 cents)	do.	do.
Catcher, ...	1	3	(30 cents)	do.	do.
Shearer, ...	1	1	(26 cents)	do.	do.

The box basis is IC 14x20, 108 lbs. Hence, to a ton of 2,240 lbs. there are 20.74 boxes. The rate per ton is, therefore :

Roller, including catcher, ...	$1.96 per ton.
Doubler, ...	1.16 per ton.
Heater, ...	1.09 per ton.
Shearer, ...	.44 per ton.

Tin House.

Tinning, ...	3 pence, 6 cents per box.
Washing, ...	3 pence, 6 cents per box.
Catching, ...	1 pence, 2 cents per box.

The wage lists submitted, both of the Amalgamated Association of Iron and Steel Workers of this country, and the Tin Workers' Union of Great Britain, cover only a part of the labor employed in the tin plate works. The pickling, annealing and cold rolling departments are very important, in which labor of experience and skill is employed. The wages in these departments differ even in each country, hence, it would be difficult to give a uniform list of the wages paid. Approximately, however, they would be as follows:

	Great Britain.	United States.
Pickling, black and white, ...	34 cents per ton,	82 cents per ton.
Annealing, ...	31 cents per ton,	75 cents per ton.
Cold rolling, ...	35 cents per ton,	80 cents per ton.

All other hands, such as those employed at opening, bundling, rubbing, dusting, assorting, weighing, boxing, etc., together with enginemen, smiths, roll turners, furnace builders, laborers, etc., are paid fully 100 per cent. higher wages in this country than the same hands are paid in Great Britain.

R. Griffen, the well-known British statistician, in his report for 1893, approved by Her Majesty, furnishes the following table of deductions, covering nine tin plate works in South Wales and Monmouthshire for the years 1885-6:

	October Week of 1896.	Maximum Week of 1885.	Minimum Week of 1885.
Number employed, ...	2,899	3,195	2,779
Total weekly wages, ...	3,247£	3,728£	2,684£
Average weekly wages per head, ...	22s. 5d.	23s. 4d.	19s. 4d.

The 2,899 persons employed in October, 1886, he classifies as follows: 1,514 men, 698 lads and boys, 507 women and 180 girls, or about the same proportion as will be found in Pennsylvania's aggregate of 3,031 employes, who received an average weekly wage of $10.68.

The October week of 1886 being regarded by Mr. Griffen as an average week, and his classification of the employes only having been made to cover the number then employed, the 22 s. 5 d. October weekly average will be regarded as showing a fair average of wages paid to all persons employed in the tin plate industry for the year 1886, which, in United States money would be $5.42. But the disturbed condition of tin plate manufacture in Great Britain warrants the conclusion that there has been a material reduction in wages since that time. Some idea of the extent of the depression there may be drawn from the London Board of Trade official organ, the Labour Gazette, which, in its August, 1895, number, says: "Returns for twenty-six tin plate manufactures states that they had 108 mills in operation in the last week of July, as compared with 129 in operation in July, 1894, a reduction of 16.28 per cent.

These same twenty-six manufacturers report that they employed in July, 1895, 9,982 persons, as compared with 11,156 in July, 1894, a decline of 1,174 in the number of persons employed, or 10.5 per cent. We quote, from the same authority, June number, 1895: "Tin plate Trade.—This industry is still very unsettled. A number of works which have been idle for a considerable time have restarted during May, but at reductions of wages, which, with other concession by the men, give results from 10 to 22½ per cent. below the standard of 1874." The following detailed table appears in the same issue of the Gazette.

Tinplate Trade. Decreases—Eleven Firms, 1,890 Persons.

Tinplate Workers.	Landore.	8th May	. . .	300 male, 70 fem.,	. . . .	12½ per cent.
	Neath.	7th and 20th May	. . .	170 male, 12 fem.,	. . . .	7½ per cent., making wages 17½ per cent., below 1874 standard.
		1st May	. . .	96 male, 6 fem.,	. . . .	2½ per cent., making wages 12½ per cent., below 1874 standard.
		20th May	. . .	190 male, 12 fem.,	. . . .	About 14 per cent.
		1st May	. . .	170 male, 10 fem.,	. . . .	10 per cent.
	Pontardulais. .	27th May	. . .	256 male, 18 fem.,	. . . .	12½ per cent.
	Briton Ferry. . .	26th April to 27th May	. . .	548 male, 32 fem.,	. . . .	2½ per cent., making wages 12½ per cent., below 1874 standard.

The Commissioner of Labor for the United Kingdom, in his annual report for 1894 on changes in wages and hours of labor, after itemizing changes that effected over 8,000 tin plate workers, nearly all of whom suffered reductions from 5 to 25 per cent., summarizes as follows:

"During 1893 wages of tin plate workers remained at least nominally unchanged. In 1894, however, an extensive fall took place. In those places in which the department has been able to obtain particulars 6,412 persons were affected in addition to 180 whose wages both fell and rose during the year by the same amount. The net effect of the changes on weekly wages was 779 pounds. Altogether, twenty-nine changes were recorded, viz: Twenty-five decreases and four increases. Almost the whole of these changes took place in South Wales and Monmouth." This would make an average reduction to each person employed of fifty-eight cents per week.

In view of these acknowledged reductions by British authorities, it is safe to deduct 10 per cent., 54 cents, from Mr. Griffen's average of weekly wages for 1886 in order that they may be compared with the corresponding weekly wages in Pennsylvania in 1895. By doing this the comparison stands, average weekly wages of British tin plate workers $4.88, Pennsylvania $10.68, showing conclusively that 100 per cent. is a very conservative estimate of difference between British and American tin plate wages.

It will be seen from these figures that Pennsylvania has taken a prominent place among the tin plate manufacturers of this country, and that the manufacture of tin plate in America is of a permanent character. Notwithstanding all of the difficulties that have been encountered, the production of tin plate is growing with such rapidity that it will be but a brief time until, with proper fostering, America will produce all of the tin plate necessary for her consumption. Pennsylvania alone is prepared, if the condition of the market will warrant, to produce for the fiscal year ending June 30, 1897, from the steel billet down to the finished product, 250,000,000 pounds of tin plate, or fully the one-third of the entire consumption of the United States.

STATISTICS RELATING TO MANUFACTURING IN PENNSYLVANIA.

DAYS IN OPERATION.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the average number of days of employment by the same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries, representing 381 establishments are considered.)

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	320	.....	.....
1893,	14	288	—32	.....
1894,	14	304	+16	.....
1895,	14	326	+22	+6
BAR, SHEET AND PLATE IRON.				
1892,	25	300	.....	.....
1893,	25	238	—62	.....
1894,	25	243	+5	.....
1895,	25	242	—1	—58
IRON AND STEEL.				
1892,	28	314	.....	.....
1893,	28	308	—6	.....
1894,	28	303	—5	.....
1895,	28	318	+15	+4
STEEL.				
1892	13	281	.....	.....
1893,	13	270	—11	.....
1894,	13	272	+2	.....
1895,	13	279	+7	—2
IRON FORGINGS.				
1892,	4	262	.....	.....
1893,	4	244	—18	.....
1894,	4	296	+52	.....
1895,	4	289	—7	+27

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (−) as compared with previous year.	Increase (+) or decrease (−) 1895 as compared with 1892.
NAILS AND SPIKES.				
1892,	10	256	.....	.....
1893,	10	230	−26	.....
1894,	10	228	−2	.....
1895,	10	220	−8	−36
NUTS AND BOLTS.				
1892,	2	306	.....	.....
1893,	2	305	−1	.....
1894,	2	288	−17	.....
1895,	2	291	+3	−15
PIPES AND TUBES.				
1892,	4	267	.....	.....
1893,	4	260	−7	.....
1894,	4	268	+8	.....
1895,	4	288	+20	+21
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	301	.....	.....
1893,	25	279	−22	.....
1894,	25	282	+3	.....
1895,	25	299	+17	−2
STOVES, RANGES, HEATERS, ETC.				
1892,	10	283	.....	.....
1893,	10	273	−10	.....
1894,	10	216	−57	.....
1895,	10	232	+16	−51
HARDWARE.				
1892,	4	295	.....	.....
1893,	4	249	−46	.....
1894,	4	205	−44	.....
1895,	4	260	+55	−35
MALLEABLE IRON.				
1892,	2	302	.....	.....
1893,	2	262	−40	.....
1894,	2	247	−15	.....
1895,	2	272	+25	−30
IRON CHAINS.				
1892,	1	290	.....	.....
1893	1	240	−50	.....
1894,	1	225	−15	.....
1895,	1	237	+12	−53

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
HORSE SHOES.				
1892,	1	300	.....	.....
1893,	1	300	.....	.....
1894,	1	300	.....	.....
1895,	1	300	.....	.....
OIL TANKS.				
1892,	1	305	.....	.....
1893,	1	305	.....	.....
1894,	1	305	.....	.....
1895,	1	305	.....	.....
SAWS, EDGE TOOLS, ETC.				
1892,	5	302	.....	.....
1893,	5	284	—18	.....
1894,	5	286	+2	.....
1895,	5	294	+8	—8
METAL AND METALLIC GOODS.				
1892,	8	321	.....	.....
1893,	8	282	—39	.....
1894,	8	288	+6	.....
1895,	8	311	+23	—10
LOCOMOTIVES AND ENGINES.				
1892,	14	305	.....	.....
1893,	14	284	—21	.....
1894,	14	267	—17	.....
1895,	14	292	+25	—13
ENGINES AND BOILERS.				
1892,	7	304	.....	.....
1893,	7	289	—15	.....
1894,	7	298	+9	.....
1895,	7	290	—8	—14
BOILERS.				
1892,	8	282	.....	.....
1893,	8	250	—32	.....
1894,	8	223	—27	.....
1895,	8	208	—15	—74
BRIDGES.				
1892,	4	310	.....	.....
1893,	4	305	—5	.....
1894,	4	305	.....	.....
1895,	4	303	—2	—7

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR SPRINGS.				
1892,	1	312	.....	.....
1893,	1	312	.....	.....
1894,	1	255	—57	.....
1895,	1	277	+22	—35
CAR COUPLERS.				
1892,	1	310	.....	.....
1893,	1	248	—62	.....
1894,	1	203	—45	.....
1895,	1	285	+82	—25
CARS AND CAR WHEELS.				
1892,	9	301	.....	.....
1893,	9	284	—17	.....
1894,	9	262	—22	.....
1895,	9	303	+41	+2
SHIP BUILDING.				
1892,	1	310	.....	.....
1893,	1	309	—1	.....
1894,	1	310	+1	.....
1895,	1	307	—3	—3
WATER WHEELS.				
1892,	1	307	.....	.....
1893,	1	307	.....	.....
1894,	1	307	.....	.....
1895,	1	300	—7	—7
AGRICULTURAL IMPLEMENTS.				
1892,	2	300	.....	.....
1893,	2	276	—24	.....
1894,	2	300	+24	.....
1895,	2	309	+9	+9
RUBBER BOOTS AND SHOES.				
1892,	1	250	.....	.....
1893,	1	230	—20	.....
1894,	1	248	+18	.....
1895,	1	271	+23	+21
CARAMELS.				
1892,	1	310	.....	.....
1893,	1	310	.....	.....
1894,	1	300	—10	.....
1895,	1	300	.....	—10

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN YARNS.				
1892,	10	299	.....	.....
1893,	10	245	—54	.....
1894,	10	277	+32	.....
1895,	10	293	+16	—6
COTTON YARNS				
1892,	3	296	.....	.....
1893,	3	250	—46	.....
1894,	3	261	+11	.....
1895,	3	288	+27	—8
WORSTED YARNS.				
1892	3	300	.....	.....
1893,	3	199	—101	.....
1894,	3	277	+78	.....
1895,	3	301	+24	+1
MISCELLANEOUS YARNS.				
1892,	9	302	.....	.....
1893,	9	252	—50	.....
1894,	9	262	+10	.....
1895,	9	284	+22	—18
HOSIERY.				
1892,	13	296	.....	.....
1893,	13	261	—35	.....
1894,	13	273	+12	.....
1895,	13	294	+21	—2
HOSIERY AND KNIT GOODS.				
1892,	3	300	.....	.....
1893,	3	293	—7	.....
1894,	3	300	+7	.....
1895,	3	272	—28	—28
CARPETS.				
1892,	27	280	.....	.....
1893,	27	229	—51	.....
1894,	27	259	+30	.....
1895,	27	272	+13	—8
COTTON AND WOOLEN GOODS.				
1892,	15	301	.....	.....
1893,	15	251	—50	.....
1894,	15	262	+11	.....
1895,	15	269	+7	—32

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON GOODS.				
1892,	18	301	.....	.....
1893,	18	252	—49	.....
1894,	18	239	—13	.....
1895,	18	272	+33	—29
WOOLEN GOODS.				
1892,	16	299	.....	.....
1893,	16	245	—54	.....
1894,	16	278	+33	.....
1895,	16	298	+20	—1
KNIT GOODS.				
1892,	5	313	.....	.....
1893,	5	278	—35	.....
1894,	5	254	—24	.....
1895,	5	283	+29	—30
WORSTED GOODS.				
1892,	3	310	.....	.....
1893,	3	222	—88	.....
1894,	3	237	+15	.....
1895,	3	265	+28	—45
MIXED TEXTILES.				
1892,	10	303	.....	.....
1893,	10	289	—14	.....
1894,	10	287	—2	.....
1895,	10	300	+13	—3
CHENILLE GOODS.				
1892,	5	322	.....	.....
1893,	5	295	—27	.....
1894,	5	299	+4	.....
1895,	5	300	+1	—22
TAPESTRY AND TABLE COVERS.				
1892,	4	302	.....	.....
1893,	4	269	—33	.....
1894,	4	268	—1	.....
1895,	4	295	+27	—7
SILK "THROWSTERS."				
1892,	3	302	.....	.....
1893,	3	296	—6	.....
1894,	3	301	+5	.....
1895,	3	299	—2	—3

DAYS IN OPERATION—Concluded.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
SILK "BROAD GOODS."				
1892,	5	303	.....	.....
1893,	5	237	—66	.....
1894,	5	291	+54	.....
1895,	5	303	+12	.....
RIBBONS.				
1892,	1	307	.....	.....
1893,	1	247	—60	.....
1894,	1	302	+55	.....
1895,	1	303	+1	—4
GLASSWARE.				
1892,	17	253	.....	.....
1893,	17	195	—58	.....
1894,	17	261	+66	.....
1895,	17	241	—20	—12
PIANOS AND ORGANS.				
1892,	2	303	.....	.....
1893,	2	280	—23	.....
1894,	2	259	—21	.....
1895,	2	290	+31	—13
SEWING MACHINES.				
1892,	1	302	.....	.....
1893,	1	241	—61	.....
1894,	1	200	—41	.....
1895,	1	270	+70	—32
CARBONS.				
1892,	1	300	.....	.....
1893,	1	300	.....	.....
1894,	1	300	.....	.....
1895,	1	300	.....	.....

PERSONS EMPLOYED.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the average number of persons employed by the same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease, 1895 over 1892. Fifty-one industries, representing 381 establishments considered.)

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	2,938	.....	.....
1893,	14	2,432	—506	.....
1894,	14	1,962	—470	.....
1895,	14	2,496	+534	—442
BAR, SHEET AND PLATE IRON.				
1892,	25	9,176	.....	.....
1893,	25	8,408	—768	.....
1894,	25	6,595	—1,813	.....
1895,	25	7,832	+1,237	—1,344
IRON AND STEEL.				
1892	28	35,258	.....	.....
1893,	28	31,514	—3,744	.....
1894,	28	29,457	—2,057	.....
1895,	28	35,252	+5,795	—6
STEEL.				
1892,	13	13,075	.....	.....
1893,	13	10,585	—2,490	.....
1894,	13	9,778	—807	.....
1895,	13	12,138	+2,360	—937
IRON FORGINGS.				
1892,	4	583	.....	.....
1893,	4	507	—76	.....
1894,	4	469	—38	.....
1895,	4	594	+125	+11
NAILS AND SPIKES.				
1892,	10	3,015	.....	.....
1893,	10	2,840	—175	.....
1894,	10	2,305	—535	.....
1895,	10	2,422	+117	—593

PERSONS EMPLOYED—Continued.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	615	.....	.....
1893,	2	695	+80	.....
1894,	2	560	—135	.....
1895,	2	638	+78	+23
PIPES AND TUBES.				
1892,	4	1,336	.....	.....
1893,	4	1 311	—25	.....
1894,	4	1,263	—48	.....
1895,	4	1,454	+191	+118
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	3.554	.....	.....
1893,	25	3,097	—457	.....
1894,	25	2,603	—494	.....
1895,	25	3,066	+463	—488
STOVES, RANGES, HEATERS, ETC.				
1892,	10	1,320	.....	.....
1893,	10	1,462	+142	.....
1894,	10	1,336	—126	.....
1895,	10	1,370	+34	+50
HARDWARE.				
1892,	4	1,560	.....	.....
1893,	4	1,544	—21	.....
1894,	4	1,464	—80	.....
1895,	4	1,586	+122	+21
MALLEABLE IRON.				
1892,	2	401	.....	.....
1893,	2	362	—39	.....
1894,	2	293	—69	.....
1895,	2	367	+74	—34
IRON CHAINS.				
1892,	1	95	.....	.....
1893,	1	75	—20	.....
1894,	1	65	—10	.....
1895,	1	81	+16	—14
HORSE SHOES.				
1892,	1	110	.....	.....
1893,	1	130	+20	.....
1894,	1	110	+10	.....
1895,	1	1 7	—13	+17

PERSONS EMPLOYED—Continued.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	113	.....	.....
1893,	1	120	+7	.....
1894,	1	115	—5	.....
1895,	1	150	+35	+37
SAWS, EDGE TOOLS, ETC.				
1892,	5	2,448	.....	.....
1893,	5	2,210	—238	.....
1894,	5	1,965	—245	.....
1895,	5	2,188	+223	—260
METAL AND METALLIC GOODS.				
1892,	8	1,726	.....	.....
1893,	8	1,622	—104	.....
1894,	8	1,500	—122	.....
1895,	8	1,704	+204	—22
LOCOMOTIVES AND ENGINES.				
1892,	14	11,591	.....	.....
1893,	14	11,644	+53	.....
1894,	14	8,441	—3,203	.....
1895,	14	9,363	+922	—2,228
ENGINES AND BOILERS.				
1892,	7	1,738	.....	.....
1893,	7	1,426	—312	.....
1894,	7	1,022	—404	.....
1895,	7	1,260	+238	—478
BOILERS.				
1892,	8	882	.....	.....
1893,	8	802	—80	.....
1894,	8	716	—86	.....
1895,	8	719	+3	—163
BRIDGES.				
1892,	4	1,217	.....	.....
1893,	4	971	—246	.....
1894,	4	647	—324	.....
1895,	4	970	+323	—247
CAR SPRINGS.				
1892,	1	207	.....	.....
1893,	1	187	—20	.....
1894,	1	108	—79	.....
1895,	1	107	—1	—100

PERSONS EMPLOYED—Continued.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	663	.....	.....
1893,	1	570	—93	.....
1894,	1	416	—154	.....
1895,	1	606	+190	—57
CARS AND CAR WHEELS.				
1892,	9	3,663	.....	.....
1893,	9	3 284	—379	.....
1894,	9	2,869	—415	.....
1895,	9	2,917	+48	—746
SHIP BUILDING.				
1892,	1	440	.....	.....
1893,	1	583	+143	.....
1894,	1	395	—188	.....
1895,	1	336	—59	—104
WATER WHEELS.				
1892,	1	95	.....	.....
1893,	1	130	+35	.....
1894,	1	100	—30	.....
1895,	1	140	+40	+45
AGRICULTURAL IMPLEMENTS.				
1892,	2	516	.....	.....
1893,	2	527	+11	.....
1894,	2	501	—26	.....
1895,	2	535	+34	+19
RUBBER BOOTS AND SHOES.				
1892,	1	325	.....	.....
1893,	1	350	+25	.....
1894,	1	350	.....	.....
1895,	1	398	+48	+73
CARAMELS.				
1892,	1	500	.....	.....
1893,	1	400	—100	.....
1894,	1	390	—10	.....
1895,	1	400	+10	—100
WOOLEN YARNS.				
1892,	10	1,865	.....	.....
1893,	10	1,471	—394	.....
1894,	10	1,148	—323	.....
1895,	10	1,616	+468	—249

PERSONS EMPLOYED—Continued.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	259	.....	.....
1893,	3	233	—26	.....
1894,	3	270	+37	.....
1895,	3	294	+21	+35
WORSTED YARNS.				
1892,	3	1,002	.....	.....
1893,	3	708	—294	.....
1894,	3	722	+14	.....
1895,	3	1,006	+284	+4
MISCELLANEOUS YARNS.				
1892,	9	544	.....	.....
1893,	9	477	—67	.....
1894,	9	418	—59	.....
1895,	9	445	+27	—99
HOSIERY.				
1892,	13	2,944	.....	.....
1893,	13	2,647	—297	.....
1894,	13	2 589	—58	.....
1895,	13	3,329	+740	+385
HOSIERY AND KNIT GOODS.				
1892,	3	595	.....	.....
1893,	3	610	+15	.....
1894,	3	600	—10	.....
1895,	3	628	+28	+33
CARPETS.				
1892,	27	7,067	.....	.....
1893,	27	5,965	—1,102	.....
1894,	27	5,638	—327	.....
1895,	27	6,252	+614	—815
COTTON AND WOOLEN GOODS.				
1892,	15	1,760	.....	.....
1893,	15	1,580	—180	.....
1894,	15	1 406	—174	.....
1895,	15	1,657	+251	—103
COTTON GOODS.				
1892,	18	4,579	.....	.....
1893,	18	4,189	—390	.....
1894,	18	4,079	—110	.....
1895,	18	4 159	+80	—420

PERSONS EMPLOYED—Continued.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase(+)or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	5,573	.....	.....
1893,	16	4,926	—647	.....
1894,	16	4,856	—70	.....
1895,	16	5,405	+549	—168
KNIT GOODS.				
1892,	5	989	.....	.....
1893,	5	973	—16	.....
1894,	5	807	—166	.....
1895,	5	1,051	+244	+62
WORSTED GOODS.				
1892,	3	661	.....	.....
1893,	3	386	—275	.....
1894,	3	461	+75	.....
1895,	3	547	+86	—114
MIXED TEXTILES.				
1892,	10	2,058	.....	.....
1893,	10	1,721	—337	.....
1894,	10	1,880	+159	.....
1895,	10	2,061	+181	+3
CHENILLE GOODS.				
1892,	5	1,577	.....	.....
1893,	5	1,153	—424	.....
1894,	5	1,176	+23	.....
1895,	5	1,189	+13	—388
TAPESTRY AND TABLE COVERS.				
1892,	4	388	.....	.....
1893,	4	299	—89	.....
1894,	4	275	—24	.....
1895,	4	326	+51	—62
SILK "THROWSTERS."				
1892,	3	540	.....	.....
1893,	3	511	—29	.....
1894,	3	603	+92	.....
1895,	3	634	+31	+94
SILK "BROAD GOODS."				
1892,	5	2,282	.....	.....
1893,	5	1,557	—725	.....
1894,	5	1,927	+370	.....
1895,	5	2,439	+512	+157

PERSONS EMPLOYED—Concluded.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed during the year.	Increase (+) or decrease ( ) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	119	.....	.....
1893,	1	112	—7	.....
1894,	1	122	+10	.....
1895,	1	135	+13	+16
GLASSWARE.				
1892,	17	6,512	.....	.....
1893,	17	5,993	—519	.....
1894,	17	5,152	—841	.....
1895,	17	6,195	+1,043	—317
PIANOS AND ORGANS.				
1892,	2	162	.....	.....
1893,	2	162	.....	.....
1894,	2	162	.....	.....
1895,	2	142	—20	—20
SEWING MACHINES.				
1892,	1	161	.....	.....
1893,	1	100	—61	.....
1894,	1	100	.....	.....
1895,	1	150	+50	—11
CARBONS.				
1892,	1	48	.....	.....
1893,	1	50	+2	.....
1894,	1	55	+5	.....
1895,	1	49	—6	+1

AGGREGATE WAGES PAID.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the aggregate wages paid by the same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries, representing 381 establishments, considered.)

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$1,358,792	.....	.....
1893,	14	1,056,722	—$302,070	.....
1894,	14	740,265	—316,457	.....
1895,	14	1,168,446	+428,181	—$190,346
BAR, SHEET AND PLATE IRON.				
1892,	25	4,555,210	.....	.....
1893,	25	3,752,266	—802,944	.....
1894,	25	2,312,419	—1,439,847	.....
1895,	25	2,982,406	+669,987	—1,572,804
IRON AND STEEL.				
1892,	28	20,472,141	.....	.....
1893,	28	17,869,637	—2,602,504	.....
1894,	28	14,581,431	—3,288,206	.....
1895,	28	18,394,841	+3,813,410	—2,077,300
STEEL.				
1892,	13	6,601,181	.....	.....
1893,	13	5,234,148	—1,367,033	.....
1894,	13	4,492,128	—742,020	.....
1895,	13	5,872,084	+1,379,956	—729,097
IRON FORGINGS.				
1892,	4	379,070	.....	.....
1893,	4	302,651	—76,419	.....
1894,	4	237,457	—65,194	.....
1895,	4	311,275	+73,818	—67,795
NAILS AND SPIKES.				
1892,	10	1,294,034	.....	.....
1893,	10	1,130,151	—163,883	.....
1894,	10	770,354	—359,797	.....
1895,	10	848,142	+77,788	—445,892

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	238,112	.....	.....
1893,	2	235,777	—2,335	.....
1894,	2	208,854	—26,923	.....
1895,	2	257,202	+48,348	+19,090
PIPES AND TUBES.				
1892,	4	575,531	.....	.....
1893,	4	519,129	—56,402	.....
1894,	4	513,268	—5,861	.....
1895,	4	646,083	+132,815	+70,552
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	1,967,645	.....	.....
1893,	25	1,533,465	—434,180	.....
1894,	25	1,313,309	—220,156	.....
1895,	25	1,571,056	+257,747	—396,589
STOVES, RANGES, HEATERS, ETC.				
1892,	10	677,158	.....	.....
1893,	10	707,476	+30,318	.....
1894,	10	558,460	—149,016	.....
1895,	10	606,367	+47,907	—70,791
HARDWARE.				
1892,	4	608,700	.....	.....
1893,	4	581,468	—27,232	.....
1894,	4	494,538	—86,930	.....
1895,	4	589,411	+94,873	—19,289
MALLEABLE IRON.				
1892,	2	207,159	.....	.....
1893,	2	167,644	—39,515	.....
1894,	2	129,634	—38,010	.....
1895,	2	185,490	+55,856	—21,669
IRON CHAINS.				
1892,	1	34,000	.....	.....
1893,	1	24,000	—10,000	.....
1894,	1	20,000	—4,000	.....
1895,	1	28,400	+8,400	—5,600
HORSE SHOES.				
1892,	1	41,500	.....	.....
1893,	1	48,250	+6,750	.....
1894,	1	51,261	+3,011	.....
1895,	1	53,697	+2,436	+12,197

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	58,700	.....	.....
1893,	1	59,500	+800	.....
1894,	1	49,165	—10,335	.....
1895,	1	67,952	+18,787	+9,252
SAWS, EDGE TOOLS, ETC.				
1892,	5	1,306,442	.....	.....
1893,	5	1,166,262	—140,180	.....
1894,	5	872,555	—293,707	.....
1895,	5	1,078,514	+205,959	—227,928
METAL AND METALLIC GOODS.				
1892,	8	833,385	.....	.....
1893,	8	738,036	—95,349	.....
1894,	8	675,524	—62,512	.....
1895,	8	829,877	+154,353	—3,508
LOCOMOTIVES AND ENGINES.				
1892,	14	6,941,946	.....	.....
1893,	14	6,528,803	—413,143	.....
1894,	14	4,032,489	—2,496,314	.....
1895,	14	5,231,956	+1,199,467	—1,709,990
ENGINES AND BOILERS.				
1892,	7	890,391	.....	.....
1893,	7	718,487	—171,904	.....
1894,	7	533,260	—185,227	.....
1895,	7	661,201	+127,941	—229,190
BOILERS.				
1892,	8	394,594	.....	.....
1893,	8	323,385	—71,209	.....
1894,	8	231,692	—91,693	.....
1895,	8	263,689	+31,997	—130,905
BRIDGES.				
1892,	4	532,673	.....	.....
1893,	4	413,517	—119,156	.....
1894,	4	262,240	—151,277	.....
1895,	4	450,391	+188,151	—82,282
CAR SPRINGS.				
1892,	1	139,800	.....	.....
1893,	1	104,498	—35,302	.....
1894,	1	49,664	—54,834	.....
1895,	1	67,556	+17,892	—72,244

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	361,338	.....	.....
1893,	1	281,375	—79,963	.....
1894,	1	160,978	—120,397	.....
1895,	1	304,785	+143,807	—56,553
CARS AND CAR WHEELS.				
1892,	9	1,956,428	.....	.....
1893,	9	1,655,333	—301,095	.....
1894,	9	1,318,916	—336,417	.....
1895,	9	1,547,706	+228,790	—408,722
SHIP BUILDING.				
1892,	1	242,358	.....	.....
1893,	1	324,439	+82,081	.....
1894,	1	226,858	—97,581	.....
1895,	1	190,820	—36,038	—51,538
WATER WHEELS.				
1892,	1	39,500	.....	.....
1893,	1	55,600	+16,100	.....
1894,	1	38,059	—17,541	.....
1895,	1	62,752	+24,693	+23,252
AGRICULTURAL IMPLEMENTS.				
1892,	2	199,277	.....	.....
1893,	2	181,848	—17,429	.....
1894,	2	173,846	—8,002	.....
1895,	2	191,409	+17,563	—7,868
RUBBER BOOTS AND SHOES.				
1892,	1	141,784	.....	.....
1893,	1	145,471	+3,687	.....
1894,	1	128,156	—17,315	.....
1895,	1	150,705	+22,549	+8,921
CARAMELS.				
1892,	1	95,000	.....	.....
1893,	1	80,000	—15,000	.....
1894,	1	81,000	+1,000	.....
1895,	1	88,761	+7,761	—6,239
WOOLEN YARNS.				
1892,	10	527,864	.....	.....
1893,	10	428,848	—99,016	.....
1894,	10	286,557	—142,291	.....
1895,	10	424,006	+137,449	—103,858

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	84 571	.....	.....
1893,	3	71,384	—13,187	.....
1894,	3	70,983	—401	.....
1895,	3	89,806	+18,823	+5,235
WORSTED YARNS.				
1892,	3	298,181	.....	.....
1893,	3	211,833	—86,348	.....
1894,	3	201,584	—10,249	.....
1895,	3	278,890	+77,306	—19,291
MISCELLANEOUS YARNS.				
1892,	9	212,052	.....	.....
1893,	9	150,765	—61,287	.....
1894,	9	138,072	—12,693	.....
1895,	9	159,564	+21,492	—52,488
HOSIERY.				
1892,	13	770,891	.....	.....
1893,	13	660,803	—110,088	.....
1894,	13	567,411	—93,392	.....
1895,	13	863,884	+296,473	+92,993
HOSIERY AND KNIT GOODS.				
1892,	3	197,312	.....	.....
1893,	3	186,860	—10,452	.....
1894,	3	191,806	+4,946	.....
1895,	3	179,494	—12,312	—17,818
CARPETS.				
1892,	27	2,684,143	.....	.....
1893,	27	2,172,868	—511,275	.....
1894,	27	2,001,169	—171,699	.....
1894,	27	2,342,479	+341,310	—341,664
COTTON AND WOOLEN GOODS.				
1892,	15	610,173	.....	.....
1893,	15	472,203	—137,970	.....
1894,	15	408,085	—64,118	.....
1895,	15	489,535	+81,450	—120,638
COTTON GOODS.				
1892,	18	1,743,572	.....	.....
1893,	18	1,294,810	—448,762	.....
1894,	18	1,242,154	—52 656	.....
1895,	18	1,319,144	+76,990	—424,428

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	1,953,364	.....	.....
1893,	16	1,527,984	—425,380	.....
1894,	16	1,388,781	—139,203	.....
1895,	16	1,694,440	+305,659	—258,924
KNIT GOODS.				
1892,	5	286,648	.....	.....
1893,	5	255,438	—31,210	.....
1894,	5	205,732	—49,706	.....
1895,	5	288,841	+83,109	+2,193
WORSTED GOODS.				
1892,	3	239,858	.....	.....
1893,	3	135,561	—104,297	.....
1894,	3	158,743	+23,182	.....
1895,	3	192,633	+33,890	—47,225
MIXED TEXTILES.				
1892,	10	725,998	.....	.....
1893,	10	532,274	—193,724	.....
1894,	10	539,584	+7,310	.....
1895,	10	627,253	+87,669	—98,745
CHENILLE GOODS.				
1892,	5	648,492	.....	.....
1893,	5	435,761	—212,731	.....
1894,	5	442,828	+7,067	.....
1895,	5	460,319	+17,491	—188,173
TAPESTRY AND TABLE COVERS.				
1892,	4	144,900	.....	.....
1893,	4	99,241	—45,659	.....
1894,	4	103,683	+4,442	.....
1895,	4	124,743	+21,060	—20,157
SILK "THROWSTERS."				
1892,	3	117,989	.....	.....
1893,	3	111,290	—6,699	.....
1894,	3	139,927	+28,637	.....
1895,	3	154,327	+14,400	+36,338
SILK "BROAD GOODS."				
1892,	5	549,032	.....	.....
1893,	5	349,728	—199,304	.....
1894,	5	473,855	+124,127	.....
1895,	5	604,854	+130,999	+55 822

AGGREGATE WAGES PAID—Concluded.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS 1892. 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	40,661	.....	.....
1893,	1	30,646	—10,015	.....
1894,	1	35,500	+4,854	.....
1895,	1	49,346	+13,846	+8,685
GLASSWARE.				
1892,	17	3,013,108	.....	.....
1893,	17	2,209,369	—803.739	.....
1894,	17	2,219,127	+9.758	.....
1895,	17	2,198,916	—20,211	—814,192
PIANOS AND ORGANS.				
1892,	2	53,972	.....	.....
1893,	2	50,583	—3,389	.....
1894,	2	46,187	—4,396	.....
1895,	2	49,644	+3,457	—4,328
SEWING MACHINES.				
1892,	1	84,657	.....	.....
1893,	1	48,096	—36,561	.....
1894,	1	38,246	—9,850	.....
1895,	1	60,107	+21,861	—24,559
CARBONS.				
1892,	1	25,000	.....	.....
1893,	1	27,000	+2,000	.....
1894,	1	29,000	+2,000	.....
1895,	1	28,000	—1,000	+3,000

AVERAGE YEARLY EARNINGS.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the average yearly earnings in same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries, representing 281 establishments, considered.)

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$462 49	.....	.....
1893,	14	434 51	—$27 98	.....
1894,	14	377 30	—57 21	.....
1895,	14	468 13	+90 83	+$5 61
BAR, SHEET AND PLATE IRON.				
1892,	25	496 43	.....	.....
1893,	25	446 27	—50 16	.....
1894,	25	350 63	—95 64	.....
1895,	25	380 79	+30 16	—115 64
IRON AND STEEL.				
1892,	28	580 64	.....	.....
1893,	28	567 04	—13 60	.....
1894,	28	495 01	—72 03	.....
1895,	28	521 81	+28 60	—58 83
STEEL.				
1892,	13	504 87	.....	.....
1893,	13	494 49	—10 38	.....
1894,	13	459 41	—35 08	.....
1895,	13	483 78	+24 37	—21 09
IRON FORGINGS.				
1892,	4	650 21	.....	.....
1893,	4	596 95	—53 26	.....
1894,	4	506 31	—90 64	.....
1895,	4	524 03	+17 72	—126 18
NAILS AND SPIKES.				
1892,	10	429 19	.....	.....
1893,	10	397 94	—31 25	.....
1894,	10	334 21	—63 73	.....
1895,	10	350 18	+15 97	—79 01

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	387 17	.....	.....
1893,	2	339 24	—47 93	.....
1894,	2	372 95	+33 71	.....
1895,	2	403 13	+30 18	+15 96
PIPES AND TUBES.				
1892,	4	430 78	.....	.....
1893,	4	395 98	—34 80	.....
1894,	4	406 38	+10 40	.....
1895,	4	444 34	+37 96	+13 56
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	553 64	.....	.....
1893,	25	495 14	—58 50	.....
1894,	25	504 53	+9 39	.....
1895,	25	512 41	+7 88	—41 23
STOVES, RANGES, HEATERS, ETC.				
1892,	10	512 99	.....	.....
1893,	10	483 91	—29 08	.....
1894,	10	418 01	—65 90	.....
1895,	10	442 60	+24 59	—70 39
HARDWARE.				
1892,	4	388 94	.....	.....
1893,	4	376 59	—12 35	.....
1894,	4	337 79	—38 80	.....
1895,	4	371 63	+33 84	—17 31
MALLEABLE IRON.				
1892,	2	516 61	.....	.....
1893,	2	463 11	—53 50	.....
1894,	2	442 44	—20 67	.....
1895,	2	505 42	+62 98	—11 19
IRON CHAINS.				
1892,	1	357 89	.....	.....
1893	1	320 00	—37 89	.....
1894,	1	307 70	—12 30	.....
1895,	1	350 42	+42 72	—7 47
HORSE SHOES.				
1892,	1	377 27	.....	.....
1893,	1	371 16	—6 11	.....
1894,	1	366 15	—5 01	.....
1895,	1	422 81	+56 66	+45 54

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	519 47	.....	.....
1893,	1	529 17	+9 70	.....
1894,	1	427 52	—101 65	.....
1895,	1	453 01	+25 49	—66 46
SAWS, EDGE TOOLS, ETC.				
1892,	5	533 68	.....	.....
1893,	5	527 72	—5 96	.....
1894,	5	444 05	—83 67	.....
1895,	5	538 62	+94 57	+4 94
METAL AND METALLIC GOODS.				
1892,	8	482 84	.....	.....
1893,	8	455 02	—27 82	.....
1894,	8	450 35	—4 67	.....
1895,	8	487 02	+36 67	+4 18
LOCOMOTIVES AND ENGINES.				
1892,	14	598 90	.....	.....
1893,	14	560 70	—38 20	.....
1894,	14	477 72	—82 98	.....
1895,	14	558 79	+81 07	—40 11
ENGINES AND BOILERS.				
1892,	7	512 30	.....	.....
1893,	7	503 84	—8 46	.....
1894,	7	521 78	+17 94	.....
1895,	7	524 76	+2 98	+12 46
BOILERS.				
1892,	8	447 38	.....	.....
1893,	8	403 22	—44 16	.....
1894,	8	323 59	—79 63	.....
1895,	8	366 74	+43 15	—80 64
BRIDGES.				
1892,	4	437 69	.....	.....
1893,	4	425 86	—11 83	.....
1894,	4	405 31	—20 55	.....
1895,	4	464 32	+59 01	+26 63
CAR SPRINGS.				
1892,	1	675 36	.....	.....
1893,	1	558 81	—116 55	.....
1894,	1	459 85	—98 96	.....
1895,	1	631 36	+171 51	—44 00

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	545 00	.....	.....
1893,	1	493 64	—51 36	.....
1894,	1	386 96	—106 68	.....
1895,	1	502 94	+115 98	—42 06
CARS AND CAR WHEELS.				
1892,	9	534 11	.....	.....
1893,	9	504 06	—30 05	.....
1894,	9	459 71	—44 35	.....
1895,	9	530 58	+70 87	—3 53
SHIP BUILDING.				
1892,	1	550 80	.....	.....
1893,	1	556 49	+5 69	.....
1894,	1	574 32	+17 83	.....
1895,	1	567 91	—6 41	+17 11
WATER WHEELS.				
1892,	1	415 78	.....	.....
1893,	1	427 69	+11 91	.....
1894,	1	380 59	—47 10	.....
1895,	1	448 22	+67 63	+32 44
AGRICULTURAL IMPLEMENTS.				
1892,	2	386 19	.....	.....
1893,	2	345 06	—41 13	.....
1894,	2	346 99	+1 93	.....
1895,	2	357 77	+10 78	—28 42
RUBBER BOOTS AND SHOES.				
1892,	1	436 25	.....	.....
1893,	1	415 63	—20 62	.....
1894,	1	366 16	—49 47	.....
1895,	1	378 65	+12 49	—57 60
CARAMELS.				
1892,	1	190 00	.....	.....
1893,	1	200 00	+10 00	.....
1894,	1	207 69	+7 69	.....
1895,	1	221 90	+14 21	+31 90
WOOLEN YARNS.				
1892,	10	283 03	.....	.....
1893,	10	291 53	+8 50	.....
1894,	10	249 61	—41 92	.....
1895,	10	262 38	+12 77	—20 65

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	326 53	.....	.....
1893,	3	306 36	—20 17	.....
1894,	3	262 90	—43 46	.....
1895,	3	305 46	+42 56	—21 07
WORSTED YARNS.				
1892,	3	297 58	.....	.....
1893,	3	299 20	+1 62	.....
1894,	3	279 20	—20 00	.....
1895,	3	277 22	—1 98	—20 36
MISCELLANEOUS YARNS.				
1892,	9	389 80	.....	.....
1893,	9	316 07	—73 73	.....
1894,	9	330 31	+14 24	.....
1895,	9	358 57	+28 26	—31 23
HOSIERY.				
1892,	13	261 85	.....	.....
1893,	13	249 64	—12 21	.....
1894,	13	219 16	—30 48	.....
1895,	13	259 50	+40 34	—2 35
HOSIERY AND KNIT GOODS.				
1892,	3	331 61	.....	.....
1893,	3	306 32	—25 29	.....
1894,	3	319 67	+13 35	.....
1895,	3	285 81	—33 86	—45 80
CARPETS.				
1892,	27	379 81	.....	.....
1893,	27	364 27	—15 54	.....
1894,	27	354 94	—9 33	.....
1895,	27	374 68	+19 74	—5 13
COTTON AND WOOLEN GOODS.				
1892,	15	346 69	.....	.....
1893,	15	298 86	—47 83	.....
1894,	15	290 25	—8 61	.....
1895,	15	295 43	+5 18	—51 26
COTTON GOODS.				
1892,	18	380 78	.....	.....
1893,	18	309 09	—71 69	.....
1894,	18	304 52	—4 57	.....
1895,	18	317 18	+12 66	—63 60

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	350 51	.....	.....
1893,	16	310 19	—40 32	.....
1894,	16	286 00	—24 19	.....
1895,	16	313 49	+27 49	—37 02
KNIT GOODS.				
1892,	5	289 84	.....	.....
1893,	5	262 53	—27 31	.....
1894,	5	254 93	—7 60	.....
1895,	5	274 82	+19 89	—15 02
WORSTED GOODS.				
1892,	3	362 87	.....	.....
1893,	3	351 18	—11 69	.....
1894,	3	344 35	—6 83	.....
1895,	3	352 16	+7 81	—10 71
MIXED TEXTILES.				
1892,	10	352 76	.....	.....
1893,	10	309 22	—43 54	.....
1894,	10	287 01	—22 21	.....
1895,	10	304 34	+17 33	—48 42
CHENILLE GOODS.				
1892,	5	411 21	.....	.....
1893,	5	377 93	—33 28	.....
1894,	5	376 55	—1 38	.....
1895,	5	387 14	+10 59	—24 07
TAPESTRY AND TABLE COVERS.				
1892,	4	373 45	.....	.....
1893,	4	331 91	—41 54	.....
1894,	4	377 03	+45 12	.....
1895,	4	382 64	+5 61	+9 19
SILK "THROWSTERS."				
1892,	3	218 49	.....	.....
1893,	3	217 78	—71	.....
1894,	3	232 05	+14 27	.....
1895,	3	243 41	+11 36	+24 92
SILK "BROAD GOODS."				
1892,	5	240 59	.....	.....
1893,	5	224 61	—15 98	.....
1894,	5	245 90	+21 29	.....
1895,	5	247 99	+2 09	+7 40

AVERAGE YEARLY EARNINGS—Concluded.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	341 68	.....	.....
1893,	1	273 63	68 05	.....
1894,	1	290 98	+17 35	.....
1895,	1	365 53	+74 55	+23 85
GLASSWARE.				
1892,	17	462 70	.....	.....
1893,	17	368 66	—94 04	.....
1894,	17	430 73	+62 07	.....
1895,	17	354 95	—75 78	—107 75
PIANOS AND ORGANS.				
1892,	2	333 16	.....	.....
1893,	2	312 24	—20 92	.....
1894,	2	285 10	—27 14	.....
1895,	2	349 61	+64 51	+16 45
SEWING MACHINES.				
1892,	1	525 82	.....	.....
1893,	1	480 96	—44 86	.....
1894,	1	382 46	—98 50	.....
1895,	1	400 72	+18 26	—125 10
CARBONS.				
1892,	1	520 83	.....	.....
1893,	1	540 00	+19 17	.....
1894,	1	527 28	—12 72	.....
1895,	1	571 43	+44 15	+50 60

AVERAGE DAILY WAGE.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

(In this table the average daily wage of employes, skilled and unskilled, in the same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries, representing 381 establishments, considered.)

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$1 45	.....	.....
1893,	14	1 51	+06	.....
1894,	14	1 24	—27	.....
1895,	14	1 43	+19	—02
BAR, SHEET AND PLATE IRON.				
1892,	25	1 65	.....	.....
1893,	25	1 87	+22	.....
1894,	25	1 44	—43	.....
1895,	25	1 57	+13	—08
IRON AND STEEL.				
1892,	28	1 85	.....	.....
1893,	28	1 84	—01	.....
1894,	28	1 63	—21	.....
1895,	28	1 64	+01	—21
STEEL.				
1892,	13	1 80	.....	.....
1893,	13	1 83	+03	.....
1894,	13	1 69	—14	.....
1895,	13	1 73	+04	—07
IRON FORGINGS.				
1892,	4	2 48	.....	.....
1893,	4	2 45	—03	.....
1894,	4	1 71	—74	.....
1895,	4	1 81	+10	—67
NAILS AND SPIKES.				
1892,	10	1 68	.....	.....
1893,	10	1 73	+05	.....
1894,	10	1 47	—26	.....
1895,	10	1 60	+13	—08

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	1 26	.....	.....
1893,	2	1 11	—15	.....
1894,	2	1 30	+19	.....
1895,	2	1 38	+08	+12
PIPES AND TUBES.				
1892,	4	1 61	.....	.....
1893,	4	1 52	—09	.....
1894,	4	1 52	.....	.....
1895,	4	1 54	+02	—07
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	1 84	.....	.....
1893,	25	1 77	—07	.....
1894,	25	1 79	+02	.....
1895,	25	1 71	—08	—13
STOVES, RANGES, HEATERS, ETC.				
1892,	10	1 81	.....	.....
1893,	10	1 77	—04	.....
1894,	10	1 93	+16	.....
1895,	10	1 91	—02	+10
HARDWARE.				
1892,	4	1 32	.....	.....
1893,	4	1 51	+19	.....
1894,	4	1 65	+14	.....
1895,	4	1 43	—22	+11
MALLEABLE IRON.				
1892,	2	1 71	.....	.....
1893,	2	1 77	+06	.....
1894,	2	1 79	+02	.....
1895,	2	1 86	+07	+15
IRON CHAINS.				
1892,	1	1 23	.....	.....
1893,	1	1 33	+10	.....
1894,	1	1 37	+04	.....
1895,	1	1 48	+11	+25
HORSE SHOES.				
1892,	1	1 26	.....	.....
1893,	1	1 24	—02	.....
1894,	1	1 22	—02	.....
1895,	1	1 41	+19	+15

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	1 70	.....	.....
1893,	1	1 73	+03	.....
1894,	1	1 40	—33	.....
1895,	1	1 49	+09	—21
SAWS, EDGE TOOLS, ETC.				
1892,	5	1 77	.....	.....
1893,	5	1 86	+09	.....
1894,	5	1 55	—31	.....
1895,	5	1 83	+28	+06
METAL AND METALLIC GOODS.				
1892,	8	1 50	.....	.....
1893,	8	1 61	+11	.....
1894,	8	1 57	—04	.....
1895,	8	1 56	—01	+06
LOCOMOTIVES AND ENGINES.				
1892,	14	1 96	.....	.....
1893,	14	1 97	+01	.....
1894,	14	1 79	—18	.....
1895,	14	1 91	+12	—05
ENGINES AND BOILERS.				
1892,	7	1 68	.....	.....
1893,	7	1 74	+06	.....
1894,	7	1 75	+01	.....
1895,	7	1 81	+06	+13
BOILERS.				
1892,	8	1 59	.....	.....
1893,	8	1 61	+02	.....
1894,	8	1 45	—16	.....
1895,	8	1 76	+31	+17
BRIDGES.				
1892,	4	1 41	.....	.....
1893,	4	1 40	—01	.....
1894,	4	1 33	—07	.....
1895,	4	1 53	+20	+12
CAR SPRINGS.				
1892,	1	2 17	.....	.....
1893,	1	1 79	—38	.....
1894,	1	1 80	+01	.....
1895,	1	2 28	+48	+11

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	1 76	.....	.....
1893,	1	1 99	+23	.....
1894,	1	1 41	—58	.....
1895,	1	1 77	+36	+01
CARS AND CAR WHEELS.				
1892,	9	1 77	.....	.....
1893,	9	1 77	.....	.....
1894,	9	1 75	—02	.....
1895,	9	1 75	.....	—02
SHIP BUILDING.				
1892,	1	1 78	.....	.....
1893,	1	1 80	+02	.....
1894,	1	1 86	+06	.....
1895,	1	1 85	—01	—07
WATER WHEELS.				
1892,	1	1 35	.....	.....
1893,	1	1 40	+05	.....
1894,	1	1 24	—16	.....
1895,	1	1 49	+25	+14
AGRICULTURAL IMPLEMENTS.				
1892,	2	1 29	.....	.....
1893,	2	1 25	—04	.....
1894,	2	1 15	—10	.....
1895,	2	1 16	+01	—13
RUBBER BOOTS AND SHOES.				
1892,	1	1 75	.....	.....
1893,	1	1 80	+05	.....
1894,	1	1 48	—32	.....
1895,	1	1 40	—08	—35
CARAMELS.				
1892,	1	61	.....	.....
1893,	1	65	+04	.....
1894,	4	69	+04	.....
1895,	1	74	+05	+13
WOOLEN YARNS.				
1892,	10	95	.....	.....
1893,	10	1 19	+24	.....
1894,	10	90	—29	.....
1895,	10	89	—01	—06

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	1 10	.....	.....
1893,	3	1 23	+13	.....
1894,	3	1 01	—22	.....
1895,	3	1 06	+05	—04
WORSTED YARNS.				
1892,	3	99	.....	.....
1893,	3	1 50	+51	.....
1894,	3	1 01	—49	.....
1895,	3	92	—09	—07
MISCELLANEOUS YARNS.				
1892,	9	1 29	.....	.....
1893,	9	1 25	—04	.....
1894,	9	1 26	+01	.....
1895,	9	1 26	.....	—03
HOSIERY.				
1892,	13	88	.....	.....
1893,	13	96	+08	.....
1894,	13	80	—16	.....
1895,	13	88	+08	.....
HOSIERY AND KNIT GOODS.				
1892,	3	1 11	.....	.....
1893,	3	1 05	—06	.....
1894,	3	1 07	+02	.....
1895,	3	1 05	—02	—06
CARPETS.				
1892,	27	1 36	.....	.....
1893,	27	1 59	+23	.....
1894,	27	1 37	—22	.....
1895,	27	1 38	+01	+02
COTTON AND WOOLEN GOODS.				
1892,	15	1 15	.....	.....
1893,	15	1 19	+04	.....
1894,	15	1 11	—08	.....
1895,	15	1 10	—01	—05
COTTON GOODS.				
1892,	18	1 27	.....	.....
1893,	18	1 23	—04	.....
1894,	18	1 27	+04	.....
1895,	18	1 17	—10	—10

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	1 17	.....	.....
1893,	16	1 27	+10	.....
1894,	16	1 03	—24	.....
1895,	16	1 05	+02	—12
KNIT GOODS.				
1892,	5	93	.....	.....
1893,	5	94	+01	.....
1894,	5	1 00	+06	.....
1895,	5	97	—03	+04
WORSTED GOODS.				
1892,	3	1 17	.....	.....
1893,	3	1 58	+41	.....
1894,	3	1 45	—13	.....
1895,	3	1 33	—12	+16
MIXED TEXTILES.				
1892,	10	1 16	.....	.....
1893,	10	1 07	—09	.....
1894,	10	1 00	—07	.....
1895,	10	1 01	+01	—15
CHENILLE GOODS.				
1892,	5	1 28	.....	.....
1893,	5	1 28	.....	.....
1894,	5	1 26	—02	.....
1895,	5	1 29	+03	+01
TAPESTRY AND TABLE COVERS.				
1892,	4	1 24	.....	.....
1893,	4	1 23	—01	.....
1894,	4	1 41	+18	.....
1895,	4	1 30	—11	+06
SILK "THROWSTERS."				
1892,	3	72	.....	.....
1893,	3	74	+02	.....
1894,	3	77	+03	.....
1895,	3	82	+05	+10
SILK "BROAD GOODS."				
1892,	5	79	.....	.....
1893,	5	95	+16	.....
1894,	5	84	—11	.....
1895,	5	82	—02	+03

AVERAGE DAILY WAGE—Concluded.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of estaolishments considered.	Average daily wages.	Increase (+) or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	1 11	.....	.....
1893,	1	1 11	.....	.....
1894,	1	96	—15	.....
1895,	1	1 21	+25	+19
GLASSWARE.				
1892,	17	1 83	.....	.....
1893,	17	1 89	+06	.....
1894,	17	1 65	—24	.....
1895,	17	1 47	—18	—36
PIANOS AND ORGANS.				
1892,	2	1 10	.....	.....
1893,	2	1 11	+01	.....
1894,	2	1 10	—01	.....
1895,	2	1 20	+10	+10
SEWING MACHINES.				
1892,	1	1 74	.....	.....
1893,	1	1 99	+25	.....
1894,	1	1 91	—08	.....
1895,	1	1 48	—43	—26
CARBONS.				
1892,	1	1 73	.....	.....
1893,	1	1 80	+07	.....
1894,	1	1 76	—04	.....
1895,	1	1 90	+14	+17

VALUE OF PRODUCT.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the value of product by the same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries, representing 381 establishments, considered.)

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$11,494,476	.....	.....
1893,	14	8,666,328	—$2,828,148	.....
1894,	14	6,076,877	—2,589,451	.....
1895,	14	8,989,898	+2,913,021	—$2,504,578
BAR, SHEET AND PLATE IRON.				
1892,	25	16,094,081	.....	.....
1893,	25	11,908,549	—4,185,532	.....
1894,	25	7,841,370	—4,067,179	.....
1895,	25	10,452,915	+2,611,545	—5,641,166
IRON AND STEEL.				
1892,	28	92,597,450	.....	.....
1893,	28	85,991,073	—6,606 377	.....
1894,	28	71,403,644	—14,587,429	.....
1895,	28	87,215,924	+15,812,280	—5,381,526
STEEL.				
1892,	13	24,711,579	.....	.....
1893,	13	18,805,567	—5,906,012	.....
1894,	13	15,781,892	—3,023,675	.....
1895,	13	20,687,948	+4,906,056	—4,023,631
IRON FORGINGS.				
1892,	4	1,053,091	.....	.....
1893,	4	789,496	—263,595	.....
1894,	4	604,106	—185 390	.....
1895,	4	779,569	+175,463	—273,522
NAILS AND SPIKES.				
1892,	10	4,827,506	.....	.....
1893,	10	3,942,713	—884,793	.....
1894,	10	3,275,789	—666,924	.....
1895,	10	3,630,012	+354,223	—1,197,494

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	1,152,138	.....	.....
1893,	2	1,007,993	—144,145	.....
1894,	2	844,782	—163,211	.....
1895,	2	1,107,466	+262,684	—44,672
PIPES AND TUBES.				
1892,	4	2,241,867	.....	.....
1893,	4	2,107,604	—134,263	.....
1894,	4	1,927,748	—179,856	.....
1895,	4	2,527,348	+599,600	+285,481
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	6,311,627	.....	.....
1893,	25	4,628,768	—1,682,859	.....
1894,	25	3,699,595	—929,173	.....
1895,	25	4,342,835	+643,240	—1,968,792
STOVES, RANGES, HEATERS, ETC.				
1892,	10	1,736,406	.....	.....
1893,	10	1,639,494	—96,912	.....
1894,	10	1,344,650	—294,844	.....
1895,	10	1,535,138	+190,488	—201,268
HARDWARE.				
1892,	4	1,242,721	.....	.....
1893,	4	1,145,987	—96,734	.....
1894,	4	1,040,023	—105,964	.....
1895,	4	1,255,661	+215,638	+12,940
MALLEABLE IRON.				
1892,	2	452,363	.....	.....
1893,	2	362,608	—89,755	.....
1894,	2	296,371	—66,237	.....
1895,	2	367,157	+70,786	—85,206
IRON CHAINS.				
1892,	1	125,000	.....	.....
1893,	1	80,000	—45,000	.....
1894,	1	60,000	—20,000	.....
1895,	1	89,700	+29,700	—35,300
HORSE SHOES.				
1892,	1	200,920	.....	.....
1893,	1	228,700	+27,780	.....
1894,	1	260,140	+31,440	.....
1895,	1	234,806	—25,334	+33,886

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	148,000	.....	.....
1893,	1	159,000	+11,000	.....
1894,	1	159,000	.....	.....
1895,	1	250,300	+91,300	+102,300
SAWS, EDGE TOOLS, ETC.				
1892,	5	3,479,164	.....	.....
1893,	5	3,203,476	—275,688	.....
1894,	5	2,402,820	—800,656	.....
1895,	5	2,914,503	+511,683	—564,661
METAL AND METALLIC GOODS.				
1892,	8	3,027,395	.....	.....
1893,	8	2,526,382	—501,013	.....
1894,	8	2,060,465	—465,917	.....
1895,	8	2,831,319	+770,854	—196,076
LOCOMOTIVES AND ENGINES.				
1892,	14	17,176,167	.....	.....
1893,	14	16,941,708	—234,459	.....
1894,	14	9,629,617	—7,312,091	.....
1895,	14	12,709,222	+3,079,605	—4,466,945
ENGINES AND BOILERS.				
1892,	7	2,924,422	.....	.....
1893,	7	2,356,655	—567,767	.....
1894,	7	1,670,120	—686,535	.....
1895,	7	1,972,903	+302,783	—951,519
BOILERS.				
1892,	8	2,118,039	.....	.....
1893,	8	1,684,899	—433,140	.....
1894,	8	1,086,140	—598,759	.....
1895,	8	1,022,985	—63,155	—1,095,054
BRIDGES.				
1892,	4	2,179,715	.....	.....
1893,	4	2,009,234	—170,481	.....
1894,	4	1,292,171	—717,063	.....
1895,	4	1,793,317	+501,146	—386,398
CAR SPRINGS.				
1892,	1	1,139,220	.....	.....
1893,	1	704,754	—434,466	.....
1894,	1	331,010	—373,744	.....
1895,	1	496,984	+165,974	—642,236

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	1,455,135	.....	.....
1893,	1	1,009,284	—445,851	.....
1894,	1	510,732	—498,552	.....
1895,	1	985,258	+474,526	—469,877
CARS AND CAR WHEELS.				
1892,	9	8,055,812	.....	.....
1893,	9	6,197,690	—1,858,122	.....
1894,	9	4,129,025	—2,068,665	.....
1895,	9	4,313,547	+184,522	—3,742,265
SHIP BUILDING.				
1892,	1	501,753	.....	.....
1893,	1	832,720	+330,967	.....
1894,	1	506,192	—326,528	.....
1895,	1	426,303	—79,889	—75,450
WATER WHEELS.				
1892,	1	132,000	.....	.....
1893,	1	180,000	+48,000	.....
1894,	1	120,000	—60,000	.....
1895,	1	157,374	+37,374	+25,374
AGRICULTURAL IMPLEMENTS.				
1892,	2	650,744	.....	.....
1893,	2	558,193	—92,551	.....
1894,	2	529,528	—28,665	.....
1895,	2	554,054	+24,526	—96,690
RUBBER BOOTS AND SHOES.				
1892,	1	749,235	.....	.....
1893,	1	845,688	+96,453	.....
1894,	1	711,056	—134,632	.....
1895,	1	839 553	+128,497	+90,318
CARAMELS.				
1892,	1	400,000	.....	.....
1893,	1	333,333	—66,667	.....
1894,	1	304,000	—29,333	.....
1895,	1	311,240	+7,240	—88,760
WOOLEN YARNS.				
1892,	10	3,243,694	.....	.....
1893,	10	2,441,663	—802,031	.....
1894,	10	1,999,184	—442,479	.....
1895,	10	2,600,417	+601,233	—643,277

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	564,857	.....	.....
1893,	3	464,105	—100,752	.....
1894,	3	438,901	—25,204	.....
1895,	3	500,504	+61,603	—64,353
WORSTED YARNS.				
1892,	3	1,692,713	.....	.....
1893,	3	1,029,283	—663,430	.....
1894,	3	1,031,841	+2,558	.....
1895,	3	1,299,326	+267,485	—393,387
MISCELLANEOUS YARNS.				
1892,	9	1,291,013	.....	.....
1893,	9	889,403	—401,610	.....
1894,	9	764,435	—124,968	.....
1895,	9	898,503	+134,068	—392,510
HOSIERY.				
1892,	13	3,006,366	.....	.....
1893,	13	2,429,258	—577,108	.....
1894,	13	2,090,722	—338,536	.....
1895,	13	2,819,230	+728,508	—187,136
HOSIERY AND KNIT GOODS.				
1892,	3	748,926	.....	.....
1893,	3	739,304	—9,622	.....
1894,	3	677,810	—61,494	.....
1895,	3	594,226	—83,584	—154,700
CARPETS.				
1892,	27	12,115,157	.....	.....
1893,	27	8,977,354	—3,137,803	.....
1894,	27	8,615,434	—361,920	.....
1895,	27	9,816,714	+1,201,280	—2,298,443
COTTON AND WOOLEN GOODS				
1892,	15	2,845,731	.....	.....
1893,	15	2,097,241	—748,490	.....
1894,	15	1,661,290	—435,951	.....
1895,	15	1,835,648	+174,358	—1,010,083
COTTON GOODS.				
1892,	18	9,667,132	.....	.....
1893,	18	7,365,762	—2,301,370	.....
1894,	18	7,391,910	+26,148	.....
1895,	18	7,255,777	—136,133	—2,411,355

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	9,548,699	.....	.....
1893,	16	7,014,527	—2,534,172	.....
1894,	16	5,946,052	—1,068,475	.....
1895,	16	6,742,988	+796,936	—2,805,711
KNIT GOODS.				
1892,	5	1,284,013	.....	.....
1893,	5	1,087,753	—196,260	.....
1894,	5	812,353	—275,400	.....
1895,	5	1,080,020	+267,667	—203,993
WORSTED GOODS.				
1892,	3	1,393,225	.....	.....
1893,	3	754,032	—639,193	.....
1894,	3	942,455	+188,423	.....
1895,	3	1,026,041	+83,586	—367,184
MIXED TEXTILES.				
1892,	10	3,439,514	.....	.....
1893,	10	2,509,691	—929,823	.....
1894,	10	2,493,860	—15,831	.....
1895,	10	2,863,644	+369,804	—575,850
CHENILLE GOODS.				
1892,	5	2,280,994	.....	.....
1893,	5	1,507,337	—773,657	.....
1894,	5	1,639,750	+132,413	.....
1895,	5	1,748,029	+108,279	—532,965
TAPESTRY AND TABLE COVERS.				
1892,	4	547,839	.....	.....
1893,	4	342,223	—205,616	.....
1894,	4	334,906	—7,317	.....
1895,	4	496,668	+161,762	—51,171
SILK "THROWSTERS."				
1892,	3	675,990	.....	.....
1893,	3	481,456	—194,534	.....
1894,	3	535,214	+53,758	.....
1895,	3	613,390	+78,176	—62,600
SILK "BROAD GOODS."				
1892,	5	3,718,034	.....	.....
1893,	5	1,476,070	—2,241,964	.....
1894,	5	3,074,564	+1,598,494	.....
1895,	5	3,800,176	+725,612	+82,142

VALUE OF PRODUCT—Concluded.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	131,400	.....	.....
1893,	1	138,571	+7,171	.....
1894,	1	169,748	+31,177	.....
1895,	1	205,387	+35,639	+73,987
GLASSWARE.				
1892,	17	5,919,793	.....	.....
1893,	17	4,523,986	—1,395,807	.....
1894,	17	4,620,213	+96,227	.....
1895,	17	4,306,614	—313,599	—1,613,179
PIANOS AND ORGANS.				
1892,	2	196,553	.....	.....
1893,	2	170,969	—25,584	.....
1894,	2	139,818	—31,151	.....
1895,	2	161,111	+21,293	—35,442
SEWING MACHINES.				
1892,	1	176,387	.....	.....
1893,	1	133,426	—42,961	.....
1894,	1	99,653	—33,773	.....
1895,	1	184,244	+84,591	+7,857
CARBONS.				
1892,	1	59,000	.....	.....
1893,	1	70,000	+11,000	.....
1894,	1	85,000	+15,000	.....
1895,	1	76,500	—8,500	+17,500

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(In this table the value of the average annual product per employe by same establishments for each of the years 1892, 1893, 1894 and 1895 is presented, with the relative increase or decrease, together with the increase or decrease 1895 over 1892. Fifty-one industries representing 381 establishments, considered.)

Character of Industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$3,912 34	.....	.....
1893,	14	3,563 49	—$348 85	.....
1894,	14	3,097 28	—466 21	.....
1895,	14	3,601 72	+504 44	—$310 62
BAR, SHEET AND PLATE IRON.				
1892,	25	1,753 93	.....	.....
1893,	25	1,416 33	—337 60	.....
1894,	25	1,188 99	—227 34	.....
1895,	25	1,334 64	+145 65	—419 29
IRON AND STEEL.				
1892,	28	2,615 08	.....	.....
1893,	28	2,719 60	+104 52	.....
1894,	28	2,422 51	—297 09	.....
1895,	28	2,464 98	+42 47	—150 10
STEEL.				
1892,	13	1,889 99	.....	.....
1893,	13	1,776 62	—113 37	.....
1894,	13	1,614 02	—162 60	.....
1895,	13	1,704 39	+90 37	—185 60
IRON FORGINGS.				
1892,	4	1,806 33	.....	.....
1893,	4	1,557 19	—249 14	.....
1894,	4	1,288 08	—269 11	.....
1895,	4	1,312 40	+24 32	—493 93
NAILS AND SPIKES.				
1892,	10	1,601 16	.....	.....
1893,	10	1,388 28	—212 88	.....
1894,	10	1,421 17	+32 89	.....
1895,	10	1,498 77	+77 60	—102 39

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
NUTS, BOLTS, ETC.				
1892,	2	$1,873 39	.....	.....
1893,	2	1,450 35	—$423 04	.....
1894,	2	1,508 54	+58 19	.....
1895,	2	1,735 84	+227 30	—$137 55
PIPES AND TUBES.				
1892,	1	1,678 01	.....	.....
1893,	4	1 607 63	—70 11	.....
1894,	1	1,526 32	—81 31	.....
1895,	1	1,738 20	+211 88	+60 16
IRON FOUNDERS AND MACHINE WORKS.				
1892,	25	1,775 92	.....	.....
1893,	25	1,494 59	—281 33	.....
1894,	25	1,421 28	—73 31	.....
1895,	25	1,416 45	—4 83	—359 47
STOVES, RANGES, HEATERS, ETC.				
1892,	10	1,315 45	.....	.....
1893,	10	1,121 40	—194 05	.....
1894,	10	1,006 47	—111 93	.....
1895,	10	1,120 54	+114 07	—194 91
HARDWARE.				
1892,	4	794 07	.....	.....
1893,	4	742 22	—51 85	.....
1894,	4	710 39	—31 83	.....
1895,	4	791 71	+81 32	—2 36
MALLEABLE IRON.				
1892,	2	1,128 09	.....	.....
1893,	2	1,001 68	—126 41	.....
1894,	2	1,011 51	+9 83	.....
1895,	2	1,000 43	—11 08	—127 66
IRON CHAINS.				
1892,	1	1,315 79	.....	.....
1893,	1	1,066 66	—249 13	.....
1894,	1	923 08	—143 58	.....
1895,	1	1 107 41	+184 33	—208 38
HORSE SHOES.				
1892,	1	1,826 55	.....	.....
1893,	1	1,759 23	—67 32	.....
1894,	1	1,858 14	+98 91	.....
1895,	1	1,848 88	—9 26	+22 23

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
OIL TANKS.				
1892,	1	$1,309 73	.....	.....
1893,	1	1,325 00	+$15 27	.....
1894,	1	1,382 61	+57 61	.....
1895,	1	1,668 66	+286 05	+$358 93
SAWS, EDGE TOOLS, ETC.				
1892,	5	1,421 23	.....	.....
1893,	5	1,449 54	+28 31	.....
1894,	5	1,222 81	—226 73	.....
1895,	5	1,332 04	+109 23	—89 19
METAL AND METALLIC GOODS.				
1892,	8	1,753 99	.....	.....
1893,	8	1,557 57	—196 42	.....
1894,	8	1,373 64	—183 93	.....
1895,	8	1,661 57	+287 93	—92 42
LOCOMOTIVES AND ENGINES.				
1892,	14	1,481 86	.....	.....
1893,	14	1,454 98	—26 88	.....
1894,	14	1,140 81	—314 17	.....
1895,	14	1,357 39	+216 58	—124 47
ENGINES AND BOILERS.				
1892,	7	1,682 63	.....	.....
1893,	7	1,652 63	—30 00	.....
1894,	7	1,634 17	—18 46	.....
1895,	7	1,565 79	—68 38	—116 84
BOILERS.				
1892,	8	2,401 40	.....	.....
1893,	8	2,100 87	—300 53	.....
1894,	8	1,516 95	—583 92	.....
1895,	8	1,422 79	—94 16	—978 61
BRIDGES.				
1892,	4	1,791 05	.....	.....
1893,	4	2,069 25	+278 20	.....
1894,	4	1,997 17	—72 08	.....
1895,	4	1,848 78	—148 39	+57 73
CAR SPRINGS.				
1892,	1	5,503 48	.....	.....
1893,	1	3,768 74	—1,734 74	.....
1894,	1	3,064 91	—703 83	.....
1895,	1	4,644 71	+1,579 80	—858 77

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CAR COUPLERS.				
1892,	1	$2,194 79	.....	.....
1893,	1	1,770 68	—$424 09	.....
1894,	1	1,227 72	—542 96	.....
1895,	1	1,625 84	+398 12	—$568 95
CARS AND CAR WHEELS.				
1892,	9	2,199 24	.....	.....
1893,	9	1,887 24	—312 00	.....
1894,	9	1,439 18	—448 06	.....
1895,	9	1,478 76	+39 58	—720 48
SHIP BUILDING.				
1892,	1	1,140 35	.....	.....
1893,	1	1,428 34	+287 99	.....
1894,	1	1,281 50	—146 84	.....
1895,	1	1,268 76	—12 74	+128 41
WATER WHEELS.				
1892,	1	1,389 48	.....	.....
1893,	1	1,384 60	—4 88	.....
1894,	1	1,200 00	—184 60	.....
1895,	1	1,124 10	—75 90	—265 38
AGRICULTURAL IMPLEMENTS.				
1892,	2	1,261 13	.....	.....
1893,	2	1,059 19	—201 94	.....
1894,	2	1,056 94	—2 25	.....
1895,	2	1,035 61	—21 33	—225 52
RUBBER BOOTS AND SHOES.				
1892,	1	2,305 34	.....	.....
1893,	1	2,416 25	+110 91	.....
1894,	1	2,031 59	—384 66	.....
1895,	1	2,109 43	+77 84	—195 91
CARAMELS.				
1892,	1	800 00	.....	.....
1893,	1	833 13	+33 13	.....
1894,	1	782 05	—51 08	.....
1895,	1	778 10	—3 95	—21 90
WOOLEN YARNS.				
1892,	10	1,739 25	.....	.....
1893,	10	1,659 86	—79 39	.....
1894,	10	1,741 45	+81 59	.....
1895,	10	1,609 17	—132 28	—130 08

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
COTTON YARNS.				
1892,	3	$2,180 91	.....	.....
1893,	3	1,991 87	—$189 04	.....
1894,	3	1,625 56	—366 31	.....
1895,	3	1,702 39	+76 83	—$478 52
WORSTED YARNS.				
1892,	3	1,689 33	.....	.....
1893,	3	1,453 79	—235 54	.....
1894,	3	1,429 14	—24 65	.....
1895,	3	1,291 57	—137 57	—397 76
MISCELLANEOUS YARNS.				
1892,	9	2,373 18	.....	.....
1893,	9	1,864 58	—508 60	.....
1894,	9	1,828 78	—35 80	.....
1895,	9	2,019 11	+190 33	—354 07
HOSIERY.				
1892,	13	1,021 18	.....	.....
1893,	13	917 74	—103 44	.....
1894,	13	807 54	—110 20	.....
1895,	13	846 87	+39 33	—174 31
HOSIERY AND KNIT GOODS.				
1892,	3	1,258 70	.....	.....
1893,	3	1,211 97	—46 73	.....
1894,	3	1,129 68	—82 29	.....
1895,	3	946 22	—183 46	—312 48
CARPETS.				
1892,	27	1,714 33	.....	.....
1893,	27	1,505 01	—209 32	.....
1894,	27	1,528 10	+23 09	.....
1895,	27	1,570 17	+42 07	—144 16
COTTON AND WOOLEN GOODS.				
1892,	15	1,616 89	.....	.....
1893,	15	1,327 36	—289 53	.....
1894,	15	1,181 57	—145 79	.....
1895,	15	1,107 81	—73 76	—509 08
COTTON GOODS.				
1892,	18	2,111 19	.....	.....
1893,	18	1,758 35	—352 84	.....
1894,	18	1,812 18	+53 83	.....
1895,	18	1,744 59	—67 59	—366 60

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of industries and Years.	Number of establishments considered.	Value of average annual product per employe.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	16	$1,713 39	.....	.....
1893,	16	1,423 98	—$289 41	.....
1894,	16	1,224 48	—199 50	.....
1895,	16	1,247 54	+23 06	—$465 85
KNIT GOODS.				
1892,	5	1,298 29	.....	.....
1893,	5	1,117 93	—180 36	.....
1894,	5	1,006 63	—111 30	.....
1895,	5	1,027 61	+20 98	—270 68
WORSTED GOODS.				
1892,	3	2,107 75	.....	.....
1893,	3	1,953 45	—154 30	.....
1894,	3	2,044 37	+90 92	.....
1895,	3	1,875 76	—168 61	—231 99
MIXED TEXTILES.				
1892,	10	1,671 29	.....	.....
1893,	10	1,458 27	—213 02	.....
1894,	10	1,326 52	—131 75	.....
1895,	10	1,389 45	+62 93	—281 84
CHENILLE GOODS.				
1892,	5	1,446 41	.....	.....
1893,	5	1,307 32	—139 09	.....
1894,	5	1,394 35	+87 03	.....
1895,	5	1,470 17	+75 82	+23 76
TAPESTRY AND TABLE COVERS.				
1892,	4	1,411 96	.....	.....
1893,	4	1,134 53	—277 43	.....
1894,	4	1,217 84	+83 31	.....
1895,	4	1,523 52	+305 68	+111 56
SILK THROWSTERS.				
1892,	3	1,251 83	.....	.....
1893,	3	942 19	—309 64	.....
1894,	3	887 58	—54 61	.....
1895,	3	967 49	+79 91	—284 34
SILK, "BROAD GOODS."				
1892,	5	1,629 29	.....	.....
1893,	5	948 02	—681 27	.....
1894,	5	1,595 52	+647 50	.....
1895,	5	1,558 09	—37 43	—71 20

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Concluded.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and years.	Number of establishments considered.	Value of average annual product per employe.	Increase(+) or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
RIBBONS.				
1892,	1	$1,104 20	.....	.....
1893,	1	1,237 24	+$133 04	.....
1894,	1	1,391 39	+154 15	.....
1895,	1	1,521 39	+130 00	+$417 19
GLASSWARE.				
1892,	17	909 06	.....	.....
1893,	17	754 88	—154 18	.....
1894,	17	896 78	+141 90	.....
1895,	17	695 17	—201 60	—213 89
PIANOS AND ORGANS.				
1892,	2	1,213 29	.....	.....
1893,	2	1,055 37	—157 92	.....
1894,	2	863 08	—192 29	.....
1895,	2	1,134 59	+271 51	—78 70
SEWING MACHINES.				
1892,	1	1,095 57	.....	.....
1893,	1	1,334 26	+238 69	.....
1894,	1	996 53	—337 73	.....
1895,	1	1,228 29	+231 76	+132 72
CARBONS.				
1892,	1	1,229 17	.....	.....
1893,	1	1,400 00	+170 83	.....
1894,	1	1,545 45	+145 45	.....
1895,	1	1,561 22	+15 77	+332 05

YEAR 1892.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	14	320	2,938	$1,358,792	$462 49	$11,494,476
Bar, sheet and plate iron,	25	300	9,176	4,555,210	496 43	16,094,681
Iron and steel,	28	314	35,258	20,472,141	580 64	92,597,450
Steel,	13	281	13,075	6,601,181	504 87	24,711,579
Iron forgings,	4	262	583	379,070	650 21	1,053,091
Nails and spikes,	10	256	3,015	1,294,034	429 19	4,827,506
Nuts and bolts,	2	306	615	238,112	387 17	1,152,138
Pipes and tubes,	4	267	1,336	575,531	430 78	2,241,867
Iron founders and machine works,	25	301	3,554	1,967,645	553 64	6,311,627
Stoves, ranges, heaters, etc.	10	283	1,320	677,158	512 99	1,736,406
Hardware,	4	295	1,565	608,700	388 94	1,242,721
Malleable iron,	2	302	401	207,159	516 61	452,363
Iron chains,	1	290	95	34,000	357 89	125,000
Horse shoes,	1	300	110	41,500	377 27	200,920
Oil tanks,	1	305	113	58,700	519 47	148,000
Saws, edge tools, etc.,	5	302	2,448	1,306,442	533 68	3,479,164
Metal and metallic goods,	8	321	1,726	833,385	482 84	3,027,395
Locomotives and engines,	14	305	11,591	6,941,946	598 90	17,176,167
Engines and boilers,	7	304	1,738	890,391	512 30	2,924,422
Boilers,	8	282	882	394,594	417 38	2,118,039
Bridges,	4	310	1,217	532,673	437 69	2,179,715
Car springs,	1	312	207	139,800	675 36	1,139,220
Car couplers,	1	310	663	361,338	545 00	1,455,135
Cars and car wheels,	9	301	3,663	1,956,428	534 11	8,055,812
Ship building,	1	310	440	242,358	550 80	501,753
Water wheels,	1	307	95	39,500	415 78	132,000
Agricultural implements,	2	300	516	199,277	386 19	650,744
Rubber boots and shoes,	1	250	325	141,784	436 25	719,235
Caramels,	1	310	500	95,000	190 00	400,000
Woolen yarns,	10	299	1,865	527,864	283 03	2,243,694
Cotton yarns,	3	296	259	84,571	326 53	564,857
Worsted yarns,	3	300	1,002	298,181	297 58	1,692,713
Miscellaneous yarns,	9	302	544	212,052	389 80	1,291,013
Hosiery,	13	296	2,944	770,891	261 85	3,006,366
Hosiery and knit goods,	3	300	595	197,312	331 61	748,926
Carpets,	27	280	7,067	2,684,143	379 81	12,115,157
Cotton and woolen yarns,	15	301	1,760	610,173	346 69	2,845,731
Cotton goods,	18	301	4,579	1,743,572	380 78	9,667,132
Woolen goods,	16	299	5,573	1,953,364	350 51	9,548,699
Knit goods,	5	313	989	286,648	289 84	1,284,013
Worsted goods,	3	310	661	239,858	362 87	1,393,225

YEAR 1892—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Mixed textiles,	10	303	2,058	$725,998	$352 76	$3,439,514
Chenille goods,	5	322	1,577	648,492	411 21	2,280,994
Tapestry and table covers,	4	302	388	144,900	373 45	547,839
Silk throwsters,	3	302	540	117,989	218 49	675,990
Silk broad goods,	5	303	2,282	549,032	240 59	3,718,034
Ribbons,	1	307	119	40,661	341 68	131,400
Glassware,	17	253	6,512	3,013,108	462 70	5,919,793
Pianos and organs,	2	303	162	53,972	333 16	196,553
Sewing machines,	1	302	161	84,657	525 82	176,387
Carbons,	1	300	48	25,000	520 83	59,000
Total,	381	296	140,850	$68,156,287	$483 89	$272,925,056

YEAR 1893.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	14	288	2,432	$1,056,722	$434 51	$8,666,328
Bar, sheet and plate iron,	25	238	8,108	3,752,266	116 27	14,908,[illegible]
Iron and steel,	28	308	31,511	17,869,637	567 01	85,934,073
Steel,	13	270	10,585	5,231,148	494 19	18,805,[illegible]67
Iron forgings,	4	244	507	302,634	596 95	789,196
Nails and spikes,	10	230	2,810	1,130,151	397 94	3,912,713
Nuts and bolts,	2	305	695	235,777	339 24	1,007,993
Pipes and tubes,	1	260	1,311	519,129	395 98	2,107,604
Iron founders and machine works,	25	279	3,097	1,533,465	495 14	1,628,768
Stoves, ranges, heaters, etc.,	10	273	1,462	707,476	483 91	1,639,494
Hardware,	4	249	1,544	581,468	376 59	1,145,987
Malleable iron,	2	262	362	167,644	463 11	362,608
Iron chains,	1	240	75	24,000	320 00	80,000
Horse shoes,	1	300	120	48,250	371 16	228,700
Oil tanks,	1	305	120	59,500	429 17	159,000
Saws, edge tools, etc.,	5	284	2,210	1,166,262	527 72	3,203,476
Metal and metallic goods,	8	282	1,622	738,036	455 02	2,526,382
Locomotives and engines,	11	284	11,614	6,528,803	560 70	16,941,703
Engines and boilers,	7	289	1,126	718,487	503 84	2,356,655
Boilers,	8	250	802	323,385	403 22	1,681,899
Bridges,	4	305	971	413,517	425 86	2,009,234
Car springs,	1	312	187	104,498	558 84	701,754
Car couplers,	1	248	570	281,375	493 64	1,009,284
Cars and car wheels,	9	284	3,284	1,665,333	504 06	6,197,690
Ship building,	1	309	583	324,439	556 49	832,720
Water wheels,	1	307	130	55,600	427 69	180,900
Agricultural implements,	2	276	527	181,818	345 06	558,193
Rubber boots and shoes,	1	230	350	145,471	415 63	845,688
Caramels,	1	310	400	80,000	200 00	333,333
Woolen yarns,	10	245	4,171	428,848	291 53	2,441,663
Cotton yarns,	3	250	233	71,384	306 36	464,105
Worsted yarns,	3	199	708	211,833	299 20	1,029,283
Miscellaneous yarns,	9	252	477	150,765	316 07	889,403
Hosiery,	13	261	2,647	660,803	249 61	2,429,258
Hosiery and knit goods,	3	293	610	186,860	306 32	739,304
Carpets,	27	229	5,965	2,172,868	364 27	8,977,354
Cotton and woolen goods,	15	251	1,580	472,203	298 86	2,097,210
Cotton goods,	18	252	4,189	1,294,810	309 09	7,365,762
Woolen goods,	16	245	4,926	1,527,984	310 19	7,014,527
Knit goods,	5	278	973	255,438	262 53	1,087,753
Worsted goods,	3	222	386	135,561	351 18	754,032

YEAR 1893—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Mixed textiles,	10	289	1,721	$532,274	$309 22	$2,509,691
Chenille goods,	5	295	1,153	435,761	377 93	1,507,337
Tapestry and table covers,	4	299	299	99,241	331 91	342,223
Silk throwsters,	3	296	511	111,290	217 78	481,455
Silk broad goods,	5	237	1,557	349,728	224 61	1,476,070
Ribbons,	1	247	112	30,646	273 63	138,571
Glassware,	17	195	5,993	2,209,369	368 66	4,523,986
Pianos and organs,	2	280	162	50,583	312 24	170,969
Sewing machines,	1	241	100	48,096	480 96	133,425
Carbons,	1	300	50	27,000	540 00	70,000
Total,	381	262	125,611	$57,402,683	$456 99	$227,491,310

YEAR 1894.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	14	304	1,962	$740,265	$377 30	$6,076,877
Bar, sheet and plate iron,	25	243	6,595	2,312,419	350 63	7,811,379
Iron and steel,	28	303	29,457	14,581,431	495 01	71,403,641
Steel,	13	272	9,778	4,492,128	459 41	15,781,892
Iron forgings,	4	296	469	237,457	506 31	604,106
Nails and spikes,	10	228	2,305	770,354	334 21	3,275,789
Nuts and bolts,	2	288	560	208,854	372 95	814,782
Pipes and tubes,	4	268	1,263	513,268	406 38	1,927,748
Iron founders and machine works,	25	282	2,603	1,313,309	504 53	3,699,595
Stoves, ranges, heaters, etc.,	10	216	1,336	558,460	418 01	1,341,650
Hardware,	4	205	1,464	491,538	337 79	1,040,023
Malleable iron,	2	217	293	129,634	442 44	296,371
Iron chains,	1	225	65	20,000	307 70	60,000
Horse shoes,	1	300	140	51,261	366 15	260,140
Oil tanks,	1	305	115	49,165	427 52	159,000
Saws, edge tools, etc.,	5	286	1,965	872,555	444 05	2,402,820
Metal and metallic goods,	8	288	1,500	675,524	450 35	2,060,465
Locomotives and engines,	14	267	8,441	4,032,489	477 72	9,629,617
Engines and boilers,	7	298	1,022	533,260	521 78	1,670,120
Boilers,	8	223	716	231,692	323 59	1,086,140
Bridges,	4	305	647	262,240	405 31	1,292,171
Car springs,	1	255	108	49,664	459 85	331,010
Car couplers,	1	203	416	160,978	386 96	510,732
Cars and car wheels,	9	262	2,869	1,318,916	459 71	4,129,025
Ship building,	1	310	395	226,858	574 32	506,192
Water wheels,	1	307	100	38,059	380 59	120,000
Agricultural implements,	2	300	501	173,846	346 99	529,528
Rubber boots and shoes,	1	248	350	128,156	366 16	711,056
Caramels,	1	300	390	81,000	207 69	304,000
Woolen yarns,	10	277	1,148	286,557	249 61	1,999,181
Cotton yarns,	3	261	270	70,983	262 90	438,901
Worsted yarns,	3	277	722	201,584	279 20	1,031,841
Miscellaneous yarns,	9	262	418	138,072	330 31	764,435
Hosiery,	13	273	2,589	567,411	219 16	2,090,722
Hosiery and knit goods,	3	300	600	191,806	319 67	677,810
Carpets,	27	259	5,638	2,001,169	354 94	8,615,434
Cotton and woolen yarns,	15	262	1,406	408,085	290 25	1,661,290
Cotton goods,	18	239	4,079	1,242,154	304 52	7,391,910
Woolen goods,	16	278	4,856	1,388,781	286 00	5,946,052
Knit goods,	5	254	807	205,732	254 93	812,353
Worsted goods,	3	237	461	158,743	344 35	942,455

YEAR 1894—Continued.

RECAPITULATION OF COMPARATIVE TABLES BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Mixed textiles,	10	287	1,880	$539,584	$287 01	$2,493,860
Chenille goods,	5	289	1,176	442,828	376 55	1,639,759
Tapestry and table covers,	4	268	275	103,683	377 03	334,906
Silk throwsters,	3	301	603	139,927	232 05	535,214
Silk broad goods,	5	291	1,927	473,855	245 90	3,074,564
Ribbons,	1	302	122	35,500	290 98	169,748
Glassware,	17	261	5,152	2,219,127	430 73	4,620,213
Pianos and organs,	2	259	162	46,187	285 10	139,818
Sewing machines,	1	200	100	38,246	382 46	99 653
Carbons,	1	300	55	29,000	527 28	85,000
Total,	381	268	112,271	$46,186,794	$411,39	$185,463,976

YEAR 1895.

RECAPITULATION OF COMPARATIVE TABLES BY YEARS.

Character of industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	14	326	2,496	$1,168,446	$468 12	$8,989,898
Bar, sheet and plate iron,	25	242	7,832	2,982,406	380 79	10,452,975
Iron and steel,	28	318	35,252	18,394,841	521 81	87,215,924
Steel,	13	2 9	12,138	5,872 081	483 78	20,687,978
Iron forgings,	4	289	594	311,275	524 03	779,569
Nails and spikes,	10	220	2,422	848,142	350 18	3,630,012
Nuts and bolts,	2	291	638	257,202	403 13	1,107,466
Pipes and tubes,	1	288	1,451	646,083	444 24	2,527,319
Iron founders and machine works,	25	299	3,066	1,571,056	512 41	4,342,835
Stoves, ranges, heaters, etc.,	10	232	1,370	606,367	442 60	1,555,158
Hardware,	1	260	1,586	589,411	371 63	1,255,664
Malleable iron,	2	272	367	185,490	505 42	567,157
Iron chains,	1	247	81	28,400	350 42	80,700
Horse shoes,	1	300	127	53,697	422 81	234,803
Oil tanks,	1	305	150	67,952	453 01	250,300
Saws, edge tools, etc.,	5	294	2,188	1,078,511	528 62	2,914,003
Metal and metallic goods,	8	311	1,704	829,877	487 02	2,834,319
Locomotives and engines,	14	292	9,363	5,231,956	558 79	12,709,222
Engines and boilers,	7	290	1,250	661,204	524 76	1,972 903
Boilers,	8	208	719	263,689	366 74	1,022 935
Bridges,	4	303	970	450,394	464 32	1,7.3,317
Car springs,	1	277	107	67,556	631 36	496,984
Car couplers,	1	285	606	304,785	502 94	985,278
Cars and car wheels,	9	303	2,917	1,547,706	530 58	4,313,547
Ship building,	1	307	336	190,820	567 91	426,303
Water wheels,	1	300	140	62,752	448 22	157,371
Agricultural implements,	2	309	535	191,409	357 77	554,051
Rubber boots and shoes,	1	271	398	150,705	378 65	839,553
Caramels,	1	300	400	88,761	221 90	311,240
Woolen yarns,	10	293	1,616	424,005	262 38	2,600,417
Cotton yarns,	3	288	294	89,806	305 46	500,504
Worsted yarns,	3	310	1,006	278,890	277 22	1,2 9,326
Miscellaneous yarns,	5	284	445	159,561	358 57	898,503
Hosiery,	13	294	3 329	863,884	259 50	2,819,250
Hosiery and knit goods,	3	272	628	179,494	285 81	594,223
Carpets,	27	272	6 252	2,342,479	374 68	9,816,714
Cotton and woolen goods,	15	259	1,657	489,535	295 43	1,835,648
Cotton goods,	18	272	4,159	1,319,144	317 18	7,255,777
Woolen goods,	16	298	5,405	1,694,440	313 49	6,742 988
Knit goods,	5	283	1,051	288,841	274 82	1,080 020
Worsted goods,	3	265	547	192,633	352 16	1,026,041

YEAR 1895—Continued.

RECAPITULATION OF COMPARATIVE TABLES BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Mixed textiles,	10	300	2,061	$627,253	$304 34	$2,863,664
Chenille goods,	5	300	1,189	460,319	387 14	1,748,029
Tapestry and table covers,	4	295	326	124,743	382 64	496,068
Silk throwsters,	3	299	634	154,327	243 41	613,390
Silk broad goods,	5	303	2,439	604,854	247 99	3,800,176
Ribbons,	1	303	135	49,346	365 53	205,287
Glassware,	17	241	6,195	2,198,916	354 95	4,306,614
Pianos and organs,	2	290	142	49,644	349 61	161,111
Sewing machines,	1	270	150	60,107	400 72	184,241
Carbons,	1	300	49	28,000	571 43	76,500
Total,	381	289	130,925	$57,383,199	$438,29	$225,720,416

RESUME.

The same establishments for the years 1892, 1893, 1894, 1895.

Years.	Number of establishments considered.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
1892,	381	140,850	$68,156,287	$483 89	$272,925,056
1893,	381	125,611	57,402,683	456 99	227,491,310
1894,	381	112,271	46,186,794	411 39	185,463,976
1895,	381	130,925	57,383,199	438 29	225,720,416

COMPARISON OF TOTALS, ALL ESTABLISHMENTS (381), FOR THE YEARS 1892, 1893, 1894, 1895.

Employes' Wages, Earnings, Value and Years.	Total number of establishments considered.	Totals.	Increase (+) or decrease (—) as compared with previous year.		Increase (+) or decrease (—) 1895 as compared with 1892.	
			Amounts.	Percentages.	Amounts.	Percentages.
Average Number of Persons Employed.						
1892,	381	$140,840	.....	.....	.....	.....
1893,	381	125,611	—$15,239	—10.82	.....	.....
1894,	381	112,271	—13,340	—10.62	.....	.....
1895,	381	130,925	+18,654	+16.61	—$9,925	—7.04
Aggregate Amount of Wages Paid.						
1892,	381	$68,156,287	.....	.....	.....	.....
1893,	381	57,402,683	—$10,753,604	—15.78	.....	.....
1894,	381	46,186,794	—11,215,889	—19.54	.....	.....
1895,	381	57,383,199	+11,196,405	+24.24	—10,773,088	—15.80
Average Yearly Earnings.						
1892,	381	$483 89	.....	.....	.....	.....
1893,	380	456 99	—$26 90	—5.56	.....	.....
1894,	381	411 39	—45 60	—9.98	.....	.....
1895,	381	438 29	+26 90	+6.54	—$45.60	—9.43
Value of Product.						
1892,	381	$272,925,056	.....	.....	.....	.....
1893,	381	227,491,310	—45,433,746	—16.65	.....	.....
1894,	381	185,463,976	—42,027,334	—18.48	.....	.....
1895,	381	225,720,416	+40,256,440	+21.71	—47,204,640	—17.29

The Bureau regrets that the number of establishments considered in this comparative work is not much larger and of much wider scope, and that every prominent industry of the State is not only represented, but represented by a sufficient number of establishments, well distributed, to make the work what it ought to be, a complete chronometer of the industrial condition of the State. It is contemplated to lay the foundation in 1896 for such an enlargement. Every leading industry so represented, with returns honestly and carefully made each year, can but add interest and value to the work. In this connection, it gives the Bureau pleasure to say that with but few exceptions the manufacturers of the State have shown a disposition to give prompt replies to the demands made upon them. But, however more desirable this enlargement may be, the value of compared returns for four consecutive years from iron and steel establishments, textiles and others, covering a value of goods made for one year amounting to the enormous sum of $272,925,056, cannot be treated with disparagement. The desire to extend this work is only prompted by what seems to be the value of the work in hand.

ANALYSIS COMPARISON—THE SAME ESTABLISHMENTS FOR 1892, 1893, 1894 and 1895.

Days in Operation.

In a comparison of the days in operation in the same 381 establishments for the years 1892, 1893, 1894 and 1895, it will be observed that as between 1893 and 1892 there was a decline in all of the 51 industries considered, except horse shoes, oil tanks, water wheels, car springs, carbons and caramels, but as these six industries represent only one establishment each, and the 51 industries considered represent 381 establishments, it will be seen that 375 had a decrease in the number of days in operation. The highest percentage of loss was sustained in the worsted goods industry, the decrease of days in operation being 88 days or 39 per cent. The next highest percentage of loss was in the worsted yarns industry (the same number of establishments considered), the decrease of days in operation being 101 days or 33 per cent. The average decrease of days in operation to each person employed was 31 days.

In 1894 there was a gain in days of operation over 1893. Twenty-seven of the 51 industries, representing 242 establishments, had increased days of operation. On the other hand, however, 19 indus-

tries, representing 131 establishments, had decreased days. The average increase over 1893 was 8 days, but the decrease over 1892 was 23 days.

In 1895, 36 of the 51 industries, representing 294 establishments, had increased days of operation over 1894. Eleven industries, representing 83 establishments, had a decrease, while 4 industries representing 4 establishments, worked the same number of days. The average increase over 1894 for all persons employed was 16 days, and the average decrease, as compared with 1892, 9 days.

Persons Employed.

The total number of persons employed in the 381 establishments in 1892 was 140,850 and in 1893, 125,611. Three hundred and forty-three establishments had an aggregate decrease of 15,772; 37 establishments an aggregate increase of 533, and one establishment employed the same number of persons both years. Net decrease in the 381 establishments over 1892, 15,239. In 1894 the decrease of persons employed continued, there being in the 381 establishments only 112,231 as against 125,611 in 1893, and as against 140,850 in 1892. In 1894, 308 of the 343 establishments that showed a decrease of 15,772 in 1893, showed a still further decrease of 10,412. Thirty-three of these same 343 establishments had an increase over 1893 of 780, the remaining two employed the same number of persons. Net decrease for these 343 establishments, 1894 over 1893, 9,632. Net decrease for the same establishments, 1894 over 1892, 25,459. The total number of persons employed in this special group of 343 establishments in 1892 was 125,120. There still remains 38 of the total 381 establishments considered in these returns. Thirty-seven were the same establishments that had an increase of 533 persons in 1893 over 1892, but now in 1894, 34 of them have a decrease in the number of persons employed of 3,723; 2 an increase of 15 and 1 employing the same number. The one remaining establishment that was not in this group of 37 establishments, and completing the 381 establishments, had no change in the number of persons employed. Net decrease in the number of persons employed in the 381 establishments, 1894 over 1893, 13,340; 1894 over 1892, 28,579, or 20.28 per cent.

In 1895 there was a general increase in employment, the excess of the persons employed in the 381 establishments over 1894 being 18,654. Notwithstanding this increase, there was still 9,925 fewer persons employed in 1895 than in 1892. An analysis of the tables shows that 31 industries, representing 304 establishments, employed 123,436 persons in 1892 and 112,307 persons in 1895, a decrease of 11,129 in the number employed, and that the remaining 20 industries, representing 77 establishments, employed 17,414 persons in

1892 and 18,618 in 1895, an increase of 1,204, leaving a net decrease in 1895 over 1892 of 9,925 persons, or 7.04 per cent.

Yearly Earnings.

It will be observed that the lowest average yearly earnings was reached in 1894, and the highest in 1892, the average for the former year being $411.39 and for the latter $483.89. The only industries showing an advance, 1894 over 1892, were engines and boilers, 7 establishments, representing 1,022 persons, advance from $512.30 to $521.78; ship building, 1 establishment, representing 395 persons, advance from $550.80 to $574.32; caramels, 1 establishment, representing 390 persons, advance from $190.00 to $207.69; tapestry and table covers, 4 establishments, representing 275 persons, advance from $373.45 to $377.03; silk-broad goods, 5 establishments, representing 1,927 persons, advance from $240.59 to $245.90; carbons, 1 establishment, representing 55 persons, advance from $520.83 to $527.88. Thus, it will be seen that only 4,667 persons had increased yearly earnings in 1894 over 1892, and that they were but nominal. The remaining 107,604 persons suffered a decrease.

1895 shows an almost uniform advance over 1894 in yearly earnings, the average of all the industries in 1894 being $411.39, and in 1895, $438.29. Forty-seven of the 51 industries share in the increase, the only exceptions being ship building, 1 establishment, showing decrease from $574.32 to $567.91; worsted yarns, 3 establishments, decrease from $279.20 to $277.22; hosiery and knit goods, 3 establishments, decrease from $319.67 to $285.81; glassware, 17 establishments, decrease from $430.73 to $354.95. As between 1895 and 1892 there was a material difference in the average yearly earnings, although only 9 days decrease in the number of days in operation. The average decrease was $45.60. Pig metal, 14 establishments, shows an increase of $5.64 in average yearly earnings, 1895 over 1892; bar, sheet and plate iron, 25 establishments, an average decrease of $115.64; iron and steel, 28 establishments, average decrease of $58.53; steel, 13 establishments, average decrease of $21.09; iron forgings, 4 establishments, average decrease of $126.18; nails and spikes, 10 establishments, average decrease of $79.01; nuts and bolts, 2 establishments, average increase of $15.96; pipes and tubes, 4 establishments average increase of $13.56. In detail, but 17 of the 51 industries show increased yearly earnings in 1895 over 1892—pig metal, nuts and bolts, pipes and tubes, horse shoes, saws, edged tools, etc., metal and metallic goods, engines and boilers, bridges, ship building, water wheels, tapestry and table covers, silk-broad goods, silk-throwsters, silk ribbons, pianos and organs, carbons and caramels. These seventeen industries represented 64 establishments

and 15,438 persons, leaving 34 industries, representing 317 establishments and employing 115,487 persons with yearly earnings less in 1895 than in 1892. Average daily wages which may be lower or higher relatively than the average yearly earnings, as the days of employment may govern, in 24 industries, representing 255 establishments out of the 381 considered, and employing 102,233 persons, were lower in 1895 than in 1892; the remaining 27 industries, representing 126 establishments, and employing 28,692 persons, had increased wages over 1892. The net average decrease per day, 1895 over 1892, was 11 cents.

Value of Product.

It will be observed that the value of product of the same 381 establishments, representing 51 of the leading industries of the State, fell from $272,925,056 in 1892 to $227,491,310 in 1893, a decrease of $45,433,746, or 16.6 per cent, and that in 1894 the value had declined to $185,463,976, a reduced value over 1893 of $42,027,334 or 18.4 per cent., and a reduction over 1892 of $87,461,080, or 32 per cent. In 1895 the value rose to $225,720,416, an increase over 1894 of $40,256,440 or 21.7 per cent. 1895, however, had a decrease in the value of product of $47,204,640 over that of 1892, or 17.3 per cent.

If the iron industry is the barometer of the business pulse of Pennsylvania, a closer analysis of the comparative returns effecting the value of its product will be of interest. Take pig metal, for instance, which represents 14 establishments. In 1892 the value of product was $11,494,476; in 1893, $8,366,328, a decrease of $2,828,148, or 24.6 per cent. In 1894 there was a still further shrinkage of $2,598,451 in value, a decrease over 1892 of $5,417,599 or 47.1 per cent. 1895 as compared with 1894 had an increase of 47.9 per cent. in value, but as compared with 1892 a decrease of $2,501,578, or 21.7 per cent. It is a significant fact that the tonnage in 1895 exceeded that of 1892, the output for 1892 being 823,581 tons against 886,750 tons in 1895, an excess of 63,169 tons or an increase of 7.6 per cent, and yet a decrease in value of 21.7 per cent.

A still greater decline was experienced in bar, sheet and plate iron, 25 establishments represented. 1893 over 1892 showed a decline of $4,185,532, or 26 per cent. In 1894 a still further decline added $4,067,179 more to the reduced value, the value of the product only being $7,841,370 as against $16,094,081 in 1892, a decline of $8,252,711, or 51 per cent. In 1895 the value was increased to $10,452,915, a gain over 1894 of 33 per cent., but as compared with 1892 there was a loss of $5,641,166, or 35 per cent. decrease. In this case, however, as will be seen by the table of tonnage, there was an approximate decrease in the output.

A fruitful lesson is learned in the iron and steel comparisons. Fol-

lowing the 24 establishments that give their product, the value in 1892 (see partial value of product table) was $85,814,650.28; in 1893, $81,499,351.42, a decrease of $4,315,298.86, or 5 per cent. The corresponding tonnage decrease was 4.5 per cent. In 1894 the value of the product shrank to $68,485,639.25, a decrease in value over 1892 of $17,329,011.03, or 20 per cent. At the same time there was an increase in tonnage of 192,734 tons, or 6.5 per cent. In 1895 the production was 4,208,977 tons, an increase over 1894 of 1,064,003 tons, or 33.8 per cent., while the gain in value was only 21.8 per cent. A comparison between 1895 and 1892 is still more significant. The value of the product in 1895 was $2,356,775.46 less than in 1892, a decrease of 2.7 per cent. while the production was very largely increased. The output in 1895 was, as before stated, 4,208,977 tons, and in 1892 only 2,952,240 tons, an increase in 1895 over 1892 of 1,256,737 tons, or 42.2 per cent., and this in the face of a decline in value of 2.7 per cent.

Comparing the value of the product of the steel industry, 13 establishments represented, of 1892 and 1894, the year of the greatest depression, the result is, value, 1892, $24,711,579.63, and for 1894, $15,781,892.77, a difference of $8,929,688.86 or a decrease in value over 1892 of 36.1 per cent. The output for these two years was as follows: 1892, 566,836 tons, 1894, 458,176 tons, a difference of 108,619 tons, or a decrease of 19.16 per cent. as against the decrease of 36.1 per cent. in value. In 1895 the value of the product was increased to $20,687,948.71, still $4,023,630.92 below the value of 1892, showing a decrease of 16.28 per cent. in value of product, 1895 over 1892. On the other hand, the output for 1895 was 75,620 tons greater than that of 1892, an increase of 13.34 per cent. in production as against the decrease of 16.28 per cent. in value.

A summary of the 24 industries representing iron and steel and their products, shows that 20 industries, covering 191 establishments, had a total decrease of value of product in 1895 over the value in 1892 of $33,872,186, while 4 industries, covering 10 establishments, had a gain of $434,607, a net decrease in value of product of $33,437,579, 1895 over 1892, or 16.23 per cent.

Leaving iron and taking up the textiles, in comparing 1895 with 1892, substantially the same relative conditions are found. Yarns and knit goods, 5 industries, representing 30 establishments, had a value in 1892 of $8,076,290 and in 1895, $6,378,770, a decrease in value of product over 1892 of 21 per cent. Carpets, 27 establishments, show a reduced value of product in 1895 over 1892 of 18.98 per cent.; cotton and woolen goods, 15 establishments, a decrease in value of 35.49 per cent.; cotton goods, 18 establishments, a decrease in value of 24.94 per cent.; woolen goods, 16 establishments, a decrease in value of 29.38 per cent., covering 10 only of the entire 51 industries

considered. Twenty of the 381 establishments show gains in value of product in 1895 over 1892. The aggregate of these gains is $731,785. The remaining 41 industries, covering 361 establishments, show a decrease of $47,936,425, a net decrease of $47,204,640, or 17.29 per cent. decrease in the value of product for the 381 establishments considered in 1895 over 1892. The decrease exists not only in the value of the product as between 1895 and 1892, but all the way through from days in operation to the average daily wage. Average days in operation in 1892 were 298; in 1895, 289, a decrease of 3.02 per cent.; average number of persons employed in 1892, 140,850; in 1895, 130,925, a decrease of 7.04 per cent.; aggregate amount of wages paid out in 1892, $68,156,287; in 1895, $57,383,199, a decrease of 15.80 per cent.; average yearly earnings in 1892, $483.89; in 1895, $438.29, a decrease of 9.42 per cent., and an average daily wage in 1892 of $1.62 as against $1.51 in 1895.

As the Bureau only succeeded in getting return of product from 162 of the 381 establishments, a separate series follows, giving production of these 162 establishments, the corresponding value, aggregate of wages, yearly earnings and persons employed.

TOTAL PRODUCT.

COMPARISON OF TOTAL PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(This table only covers product of 162 establishments considered, the remaining 219 not making satisfactory returns. Corresponding tables of value, aggregate wages, yearly earnings and persons employed follow this table.)

Character of Industries and Years.	Number of establishments considered.	Total product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.		Tons.		
1892,	14	823,581	.....	.....
1893,	14	689,268	—134,313	.....
1894,	14	597,025	—92,243	.....
1895,	14	886,750	+289,725	+63,169
BAR, SHEET AND PLATE IRON.				
1892,	22	549,459	.....	.....
1893,	22	421,269	—128,190	.....
1894,	22	283,321	—137,948	.....
1895,	22	362,385	+79,064	—187,074
IRON AND STEEL.				
1892,	24	2,952,240	.....	.....
1893,	24	2,818,675	—133,565	.....
1894,	24	3,144,974	+326,299	.....
1895,	24	4,208,977	+1,064,003	+1,256,737
STEEL.				
1892,	13	566,836	.....	.....
1893,	13	432,882	—133,954	.....
1894,	13	458,217	+25,335	.....
1895,	13	642,456	+184,239	+75,620
NUTS, BOLTS, ETC.				
1892,	2	24,080	.....	.....
1893,	2	21,634	—2,446	.....
1894,	2	21,976	+342	.....
1895,	2	30,979	+9,003	+6,899
PIPES AND TUBES.				
1892,	3	54,936	.....	.....
1893,	3	56,270	+1,334	.....
1894,	3	63,767	+7,497	.....
1895,	3	71,591	+7,824	+16,655
IRON FOUNDERS AND MACHINE WORKS.				
1892,	7	29,889	.....	.....
1893,	7	19,849	—10,040	.....
1894,	7	21,505	+1,656	.....
1895,	7	26,907	+5,402	—2,982

TOTAL PRODUCT—Continued.

COMPARISON OF TOTAL PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Total product.	Increase(+) or as compared as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.		Tons.		
1892,	5	15,822	.....	.....
1893,	5	14,991	—831	.....
1894,	5	11,274	—3,717	.....
1895,	5	13,114	+1,840	—2,708
MALLEABLE IRON.				
1892,	2	5,181	.....	.....
1893,	2	4,375	—806	.....
1894,	2	3,879	—496	.....
1895,	2	5,148	+1,269	—33
IRON CHAINS.				
1892,	1	1,500	.....	.....
1893,	1	1,150	—350	.....
1894,	1	1,000	—150	.....
1895,	1	1,325	+325	—175
BRIDGES.				
1892,	4	34,149	.....	.....
1893,	4	30,897	—3,252	.....
1894,	4	25,942	—4,955	.....
1895,	4	32,856	+6,914	—1,293
CAR SPRINGS.				
1892,	1	10,248	.....	.....
1893,	1	5,934	—4,314	.....
1894,	1	2,668	—3,266	.....
1895,	1	4,662	+1,994	—5,586
CAR COUPLERS.		Sets.		
1892,	1	61,422	.....	.....
1893,	1	50,533	—10,889	.....
1894,	1	27,037	—23,496	.....
1895,	1	54,582	+27,545	—6,840
RUBBER BOOTS AND SHOES.		Pairs.		
1892,	1	658,394	.....	.....
1893,	1	766,133	+107,739	.....
1894,	1	659,650	—106,483	.....
1895,	1	1,463,256	+803,606	+804,862
CARAMELS.		Boxes.		
1892,	1	900,000	.....	.....
1893,	1	750,000	—150,000	.....
1894,	1	735,000	—15,000	.....
1895,	1	750,000	+15,000	—150,000

TOTAL PRODUCT—Continued.

COMPARISON OF TOTAL PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Total product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN YARNS.		Pounds.		
1892,	5	1,981,765	.....	.....
1893,	5	1,407,583	—574,182	.....
1894,	5	1,492,772	+85,189	.....
1895,	5	1,893,784	+401,012	—87,981
COTTON YARNS.				
1892,	2	2,367,879	.....	.....
1893,	2	1,686,392	—681,487	.....
1894,	2	1,510,384	—176,008	.....
1895,	2	1,957,057	+446,673	—410,822
HOSIERY.		Dozens.		
1892,	4	840,420	.....	.....
1893,	4	713,150	—127,270	.....
1894,	4	520,241	—192,909	.....
1895,	4	912,933	+392,692	+72,513
CARPETS.		Yards.		
1892,	13	10,623,376	.....	.....
1893,	13	8,073,265	—2,550,111	.....
1894,	13	7,869,313	—203,952	.....
1895,	13	9,714,047	+1,844,734	—909,329
COTTON AND WOOLEN GOODS.				
1892,	6	9,330,825	.....	.....
1893,	6	7,791,786	—1,539,039	.....
1894,	6	6,814,646	—977,140	.....
1895,	6	7,430,692	+616,046	—1,900,133
COTTON GOODS.				
1892,	10	33,266,251	.....	.....
1893,	10	26,625,117	—6,641,134	.....
1894,	10	23,609,349	—3,015,768	.....
1895,	10	26,120,278	+2,510,929	—7,145,973
WOOLEN GOODS.				
1892,	3	1,671,000	.....	.....
1893,	3	1,295,000	—376,000	.....
1894,	3	1,325,000	+30,000	.....
1895,	3	1,933,468	+608,468	+262,468
KNIT GOODS.		Dozens.		
1892,	2	121,652	.....	.....
1893,	2	120,248	—1,404	.....
1894,	2	83,897½	—36,350½	.....
1895,	2	111,801	+27,903½	—9,851

TOTAL PRODUCT—Continued.

COMPARISON OF TOTAL PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Total product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WORSTED GOODS.		Yards.		
1892,	1	920,349	.....	.....
1893,	1	682,949	—237,400	.....
1894,	1	908,155	+225,206	.....
1895,	1	836,342	—71,813	—84,007
MIXED TEXTILES.				
1892,	3	56,800,468	.....	.....
1893,	3	45,337,679	—11,462,789	.....
1894,	3	49,779,744	+4,442,065	.....
1895,	3	50,539,255	+759,511	—6,261,213
SILK THROWSTERS.		Pounds.		
1892,	3	260,523	.....	.....
1893,	3	221,806	—38,717	.....
1894,	3	297,706	+75,906	.....
1895,	3	355,383	+57,677	+94,860
SILK BROAD GOODS.		Yards.		
1892,	5	974,015	.....	.....
		Pounds.		
		595,345	.....	.....
		Yards.	Yards.	
1893,	5	973,918	—97	.....
		Pounds.	Pounds.	
		201,835	—393,510	.....
		Yards.	Yards.	
1894,	5	1,052,624	+78,706	.....
		Pounds.	Pounds.	
		545,954	+344,119	.....
		Yards.	Yards.	Yards.
1895,	5	1,229,139	+176,515	+255,124
		Pounds.	Pounds.	Pounds.
		747,181	+201,227	+151,836
GLASSWARE.		Sq. feet.	Sq. feet.	Sq. feet.
1892,	2	5,556,594	.....	.....
1893,	2	4,202,234	—1,354,360	.....
1894,	2	6,086,474	+1,884,240	.....
1895,	2	4,579,863	—1,506,611	—976,731

TOTAL PRODUCT—Concluded.

COMPARISON OF TOTAL PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Total product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIANOS AND ORGANS.		Quantity.		
1892,	1	1,428	.....	.....
1893,	1	1,389	—39	.....
1894,	1	1,156	—233	.....
1895,	1	1,202	+46	—226
CARBONS.		Carbons.		
1892,	1	6,700,000	.....	.....
1893,	1	8,000,000	+1,300,000	.....
1894,	1	10,000,000	+2,000,000	.....
1895,	1	10,000,000	.....	+3,300,000

Twenty-one industries left out of the production table because of incompleteness in their returns.

VALUE OF PRODUCT (SPECIAL TABLE.)

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(While comparison of the value of product by the 318 establishments considered has already been given in full, but as quantity of product was only reported by 162, this extra table, covering the 162 establishments is furnished that comparison may be made therewith. The complete table of value of product precedes the analysis.)

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase(+)or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$11,494,476	.....	.....
1893,	14	8,666,328	—$2,828,148	.....
1894,	14	6,076,877	—2,589,451	.....
1895,	14	8,989,898	+2,913,021	—$2,504,578
BAR, SHEET AND PLATE IRON.				
1892,	22	14,735,753	.....	.....
1893,	22	10,964,847	—3,770,906	.....
1894,	22	7,114,544	—3,850,303	.....
1895,	22	9,661,031	+2,546,847	—5,074 722
IRON AND STEEL.				
1892,	24	85,814,650	.....	.....
1893,	24	81,499,351	—4,315,299	.....
1894,	24	68,485,639	—13,013,712	.....
1895,	24	83,457,874	+14 972,235	—2,356,776
STEEL.				
1892,	13	24,711,579	.....	.....
1893,	13	18,805,567	—5,906,012	.....
1894,	13	15,781,892	—3,023,675	.....
1895,	13	20,687,948	+4,906,056	—4,023,631
NUTS, BOLTS, ETC.				
1892,	2	1,152,138	.....	.....
1893,	2	1,007,993	—144,145	.....
1894,	2	844,782	—163,211	.....
1895,	2	1,107,466	+262,684	—44,672
PIPES AND TUBES.				
1892,	3	2,153,132	.....	.....
1893,	3	2,034,372	—118,760	.....
1894,	3	1,895,139	—139,233	.....
1895,	3	2,382,137	+486,998	+229,005

VALUE OF PRODUCT (SPECIAL TABLE)—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
IRON FOUNDERS AND MACHINE WORKS.				
1892,	7	$1,398,211	.....	.....
1893,	7	996,271	—$401,940	.....
1894,	7	828,000	—168,271	.....
1895,	7	1,088,735	+260,735	—$309,476
STOVES, RANGES, HEATERS, ETC.				
1892,	5	652,402	.....	.....
1893,	5	587,507	—64,895	.....
1894,	5	461,540	—125,967	.....
1895,	5	522,617	+61,077	—129,785
MALLEABLE IRON.				
1892,	2	452,364	.....	.....
1893,	2	362,608	—89,756	.....
1894,	2	296,371	—66,237	.....
1895,	2	367,157	+70,786	—85,207
IRON CHAINS.				
1892,	1	125,000	.....	.....
1893,	1	80,000	—45,000	.....
1894,	1	60,000	—20,000	.....
1895,	1	89,700	+29,700	—35,300
BRIDGES.				
1892,	4	2,179,715	.....	.....
1893,	4	2,009,234	—170,481	.....
1894,	4	1,292,172	—717,062	.....
1895,	4	1,793,317	+501,145	—386,398
CAR SPRINGS.				
1892,	1	1,139,221	.....	.....
1893,	1	704,754	—434,467	.....
1894,	1	331,010	—373,744	.....
1895,	1	496,984	+165,974	—642,237
CAR COUPLERS.				
1892,	1	1,455,135	.....	.....
1893,	1	1,009,284	—445,851	.....
1894,	1	510,732	—498,552	.....
1895,	1	985,258	+474,526	—469,877
RUBBER BOOTS AND SHOES.				
1892,	1	749,235	.....	.....
1893,	1	845,688	+96,453	.....
1894,	1	711,056	—134,632	.....
1895,	1	839,553	+128,497	+90,318

VALUE OF PRODUCT (SPECIAL TABLE)—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
CARAMELS.				
1892,	1	$400,000	.....	.....
1893,	1	333,333	—$66,667	.....
1894,	1	304,000	—29,333	.....
1895,	1	311,240	+7,240	—$88,760
WOOLEN YARNS.				
1892,	5	969,395	.....	.....
1893,	5	725,405	—243,990	.....
1894,	5	645,304	—80,101	.....
1895,	5	918,560	+273,256	—50,835
COTTON YARNS.				
1892,	2	281,857	.....	.....
1893,	2	175,105	—106,752	.....
1894,	2	138,901	—36,204	.....
1895,	2	190,504	+51,603	—91,353
HOSIERY.				
1892,	4	692,503	.....	.....
1893,	4	569,871	—122,632	.....
1894,	4	321,047	—248,824	.....
1895,	4	771,930	+450,883	+79,427
CARPETS.				
1892,	13	4,682,335	.....	.....
1893,	13	3,710,216	—972,119	.....
1894,	13	3,314,964	—395,252	.....
1895,	13	3,700,125	+385,161	—982,210
COTTON AND WOOLEN GOODS.				
1892,	6	1,269,056	.....	.....
1893,	6	987,050	—282,006	.....
1894,	6	731,817	—255,233	.....
1895,	6	745,526	+13,709	—523,530
COTTON GOODS.				
1892,	10	3,040,306	.....	.....
1893,	10	2,234,640	—805,666	.....
1894,	10	1,717,726	—516,914	.....
1895,	10	1,909,057	+191,331	—1,131,249
WOOLEN GOODS.				
1892,	3	1,074,000	.....	.....
1893,	3	859,000	—215,000	.....
1894,	3	667,000	—192,000	.....
1895,	3	818,651	+151,651	—255,349

VALUE OF PRODUCT (SPECIAL TABLE)—Concluded.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
KNIT GOODS.				
1892,	2	$599,481	.....	.....
1893,	2	579,063	—$20,418	.....
1894,	2	377,524	—201,539	.....
1895,	2	495,694	+118,170	—$103,787
WORSTED GOODS.				
1892,	1	719,226	.....	.....
1893,	1	532,532	—186,694	.....
1894,	1	553,455	+20,923	.....
1895,	1	592,130	+38,675	—127,096
MIXED TEXTILES.				
1892,	3	584,728	.....	.....
1893,	3	407,730	—176,998	.....
1894,	3	423,301	+15,571	.....
1895,	3	462,163	+38,862	—122,565
SILK THROWSTERS.				
1892,	3	675,990	.....	.....
1893,	3	481,455	—194,535	.....
1894,	3	535,214	+53,759	.....
1895,	3	613,390	+78,176	—62,600
SILK BROAD GOODS.				
1892,	5	3,718,034	.....	.....
1893,	5	1,476,070	—2,241,964	.....
1894,	5	3,074,564	+1,598,494	.....
1895,	5	3,800,176	+725,612	+82,142
GLASSWARE.				
1892,	2	2,784,473	.....	.....
1893,	2	1,851,338	—933,135	.....
1894,	2	2,373,091	+521,753	.....
1895,	2	1,841,393	—531,698	—943,080
PIANOS AND ORGANS.				
1892,	1	75,053	.....	.....
1893,	1	68,860	—6,193	.....
1894,	1	56,956	—11,904	.....
1895,	1	56,382	—574	—18,671
CARBONS.				
1892,	1	59,000	.....	.....
1893,	1	70,000	+11,000	.....
1894,	1	85,000	+15,000	.....
1895,	1	76,500	—8,500	+17,500

AGGREGATE AMOUNT OF WAGES PAID (SPECIAL TABLE.).

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(While comparison of the aggregate amount of wages paid by the 381 establishments considered has already been given in full, but as quantity of product was only reported by 162, this extra table, covering the 162 establishments is furnished that comparison may be made therewith. The complete table of aggregate amount of wages paid precedes the analysis.)

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$1,358,792 84	.....	.....
1893,	14	1,056,722 73	—$302,070 11	.....
1894,	14	740,265 08	—316,457 65	.....
1895,	14	1,168,446 58	+428,181 50	—$190,346 26
BAR, SHEET AND PLATE IRON.				
1892,	22	4,102,562 50	.....	.....
1893,	22	3,407,971 38	—694,591 12	.....
1894,	22	2,508,053 77	—1,349,917 61	.....
1895,	22	2,683,897 46	+625,843 69	—1,418,665 04
IRON AND STEEL.				
1892,	24	18,406,378 88	.....	.....
1893,	24	16,403,360 88	—2,003,018 00	.....
1894,	24	13,644,038 66	—2,759,322 22	.....
1895,	24	17,085,138 26	+3,441,099 60	—1,321,240 62
STEEL.				
1892,	13	6,601,181 71	.....	.....
1893,	13	5,234,148 55	—1,367,033 16	.....
1894,	13	4,492,128 57	—742,019 98	.....
1895,	13	5,872,084 55	+1,379,955 98	—729,097 16
NUTS, BOLTS, ETC.				
1892,	2	238,112 36	.....	.....
1893,	2	235,777 25	—2,335 11	.....
1894,	2	208,854 73	—26,922 52	.....
1895,	2	257,202 89	+48,348 16	+19,090 53
PIPES AND TUBES.				
1892,	3	559,878 19	.....	.....
1893,	3	505,395 94	—54,482 25	.....
1894,	3	506,920 81	+1,524 87	.....
1895,	3	620,821 56	+113,900 75	+60,943 37

AGGREGATE AMOUNT OF WAGES PAID (SPECIAL TABLE)—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
IRON FOUNDERS AND MACHINE WORKS.				
1892,	7	$377,194 29	.....	.....
1893,	7	300,233 69	—$76,960 60	.....
1894,	7	265,912 52	—34,321 17	.....
1895,	7	329,153 69	+63,241 17	—$48,040 60
STOVES, RANGES, HEATERS, ETC.				
1892,	5	282,889 26	.....	.....
1893,	5	265,258 08	—17,631 18	.....
1894,	5	203,981 65	—61,276 43	.....
1895,	5	218,492 10	+14,510 45	—64,397 16
MALLEABLE IRON.				
1892,	2	207,158 66	.....	.....
1893,	2	167,644 51	—39,514 15	.....
1894,	2	129,633 85	—38,010 66	.....
1895,	2	185,490 67	+55,856 82	—21,667 99
IRON CHAINS.				
1892,	1	34,000 00	.....	.....
1893,	1	24,000 00	—10,000 00	.....
1894,	1	20,000 00	—4,000 00	.....
1895,	1	28,400 00	+8,400 00	—5,600 00
BRIDGES.				
1892,	4	532,673 43	.....	.....
1893,	4	413,517 26	—119,156 17	.....
1894,	4	262,240 44	—151,276 82	.....
1895,	4	450,391 39	+188,150 95	—82,282 04
CAR SPRINGS.				
1892,	1	139,800 90	.....	.....
1893,	1	104,498 20	—35,302 70	.....
1894,	1	49,664 50	—54,833 70	.....
1895,	1	67,556 60	+17,892 10	—72,244 30
CAR COUPLERS.				
1892,	1	361,338 47	.....	.....
1893,	1	281,375 00	—79,963 47	.....
1894,	1	160,978 51	—120,396 49	.....
1895,	1	340,785 87	+179,807 36	—20,552 60

AGGREGATE AMOUNT OF WAGES PAID (SPECIAL TABLE)—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
RUBBER BOOTS AND SHOES.				
1892,	1	$141,783 90	.....	.....
1893,	1	145,471 51	+$3,687 61	.....
1894,	1	128,156 66	—17,314 85	.....
1895,	1	150,705 51	+22,548 85	+$8,921 61
CARAMELS.				
1892,	1	95,000 00	.....	.....
1893,	1	80,000 00	—15,000 00	.....
1894,	1	81,000 00	+1,000 00	.....
1895,	1	88,761 40	+7,761 40	—6,238 60
WOOLEN YARNS.				
1892,	5	120,115 00	.....	.....
1893,	5	104,058 00	—16,057 00	.....
1894,	5	93,889 83	—10,168 17	.....
1895,	5	121,173 87	+27,284 04	+1,058 87
COTTON YARNS.				
1892,	2	51,007 26	.....	.....
1893,	2	35,387 12	—15,620 14	.....
1894,	2	32,983 42	—2,403 70	.....
1895,	2	45,806 45	+12,823 03	—5,200 81
HOSIERY.				
1892,	4	235,411 01	.....	.....
1893,	4	195,009 93	—40,401 08	.....
1894,	4	105,171 61	—89,838 32	.....
1895,	4	255,096 95	+149,925 34	+19,685 94
CARPETS.				
1892,	13	948,971 85	.....	.....
1893,	13	746,081 64	—202,890 21	.....
1894,	13	680,896 84	—65,184 80	.....
1895,	13	813,228 90	+132,332 06	—135,742 95
COTTON AND WOOLEN GOODS.				
1892,	6	276,978 41	.....	.....
1893,	6	228,275 56	—48,702 85	.....
1894,	6	188,793 28	—39,482 28	.....
1895,	6	211,013 78	+22,220 50	—65,964 63
COTTON GOODS.				
1892,	10	967,872 75	.....	.....
1893,	10	657,418 53	—310,454 22	.....
1894,	10	573,327 65	—84,090 88	.....
1895,	10	616,272 09	+42,944 44	—351,600 66

AGGREGATE AMOUNT OF WAGES PAID (SPECIAL TABLE)—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN GOODS.				
1892,	3	$229,502 00	.....	.....
1893,	3	185,119 00	—$44,383 00	.....
1894,	3	149,000 00	—36,119 00	.....
1895,	3	189,718 11	+40,718 11	—$39,783 89
KNIT GOODS.				
1892,	2	111,494 96	.....	.....
1893,	2	117,581 46	+6,086 50	.....
1894,	2	87,850 36	—29,731 10	.....
1895,	2	132,406 86	+44,556 50	+20,911 90
WORSTED GOODS.				
1892,	1	111,858 20	.....	.....
1893,	1	94,561 26	—17,296 94	.....
1894,	1	78,343 84	—16,217 42	.....
1895,	1	94,851 25	+16,507 41	—17,006 95
MIXED TEXTILES.				
1892,	3	171,145 99	.....	.....
1893,	3	134,044 62	—37,101 37	.....
1894,	3	126,575 80	—7,468 82	.....
1895,	3	140,589 38	+14,013 58	—30,556 61
SILK THROWSTERS.				
1892,	3	117,989 76	.....	.....
1893,	3	111,290 39	—6,699 37	.....
1894,	3	139,927 27	+28,636 88	.....
1895,	3	154,327 67	+14,400 40	+36,337 91
SILK BROAD GOODS.				
1892,	5	549,032 68	.....	.....
1893,	5	349,728 94	—199,303 74	.....
1894,	5	473,855 68	+124,126 74	.....
1895,	5	604,854 45	+130,998 77	+55,821 77
GLASSWARE.				
1892,	2	1,362,173 14	.....	.....
1893,	2	835,094 92	—527,078 22	.....
1894,	2	878,234 87	+43,139 95	.....
1895,	2	854,801 89	—23,432 98	—507,371 25

AGGREGATE AMOUNT OF WAGES PAID (SPECIAL TABLE)—Concluded.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIANOS AND ORGANS.				
1892,	1	$25,059 70	.....	.....
1893,	1	24,996 51	—$63 19	.....
1894,	1	23,346 27	—1,650 24	.....
1895,	1	23,655 69	+309 42	—$1,404 01
CARBONS.				
1892,	1	25,000 00	.....	.....
1893,	1	27,000 00	+2,000 00	.....
1894,	1	29,000 00	+2,000 00	.....
1895,	1	28,000 00	—1,000 00	+3,000 00

AVERAGE YEARLY EARNINGS (SPECIAL TABLE).

COMPARISON OF AVERAGE YEARLY EARNINGS—162 ESTABLISHMENTS—FOR THE YEARS 1892, 1893, 1894, 1895.

(While comparison of average yearly earnings in the 381 establishments considered has already been given in full, but as quantity of product was only reported by 162, this extra table, covering the 162 establishments, is furnished that comparison may be made therewith. The complete table of average yearly earnings precedes the analysis.)

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	$462 49	.....	.....
1893,	14	434 51	—$27 98	.....
1894,	14	377 30	—57 21	.....
1895,	14	468 13	+90 83	+$5 64
BAR, SHEET AND PLATE IRON.				
1892,	22	490 79	.....	.....
1893,	22	450 07	—40 72	.....
1894,	22	356 00	—94 07	.....
1895,	22	379 72	+23 72	—111 07
IRON AND STEEL.				
1892,	24	581 40	.....	.....
1893,	24	564 76	—16 64	.....
1894,	24	496 55	—68 21	.....
1895,	24	524 13	+27 58	—57 27
STEEL.				
1892,	13	504 87	.....	.....
1893,	13	494 49	—10 38	.....
1894,	13	459 41	—35 08	.....
1895,	13	483 78	+24 37	—21 09
NUTS, BOLTS, ETC.				
1892,	2	387 17	.....	.....
1893,	2	339 25	—47 92	.....
1894,	2	372 95	+33 70	.....
1895,	2	403 14	+30 19	+15 97
PIPES AND TUBES.				
1892,	3	432 00	.....	.....
1893,	3	396 08	—35 92	.....
1894,	3	407 49	+11 41	.....
1895,	3	444 08	+36 59	+12 08
IRON FOUNDERS AND MACHINE WORKS.				
1892,	7	541 17	.....	.....
1893,	7	508 01	—33 16	.....
1894,	7	471 48	—36 53	.....
1895,	7	476 34	+4 86	—64 83

AVERAGE YEARLY EARNINGS (SPECIAL TABLE)—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS—162 ESTABLISHMENTS—FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (−) as compared with previous year.	Increase (+) or decrease (−) 1895 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	5	$482 74	.....	.....
1893,	5	436 28	−$46 46	.....
1894,	5	334 94	−101 34	.....
1895,	5	359 36	+24 42	−$123 38
MALLEABLE IRON.				
1892,	2	516 61	.....	.....
1893,	2	463 11	−53 50	.....
1894,	2	442 44	−20 67	.....
1895,	2	505 42	+62 98	−11 19
IRON CHAINS.				
1892,	1	357 89	.....	.....
1893,	1	320 00	−37 89	.....
1894,	1	307 70	−12 30	.....
1895,	1	350 42	+42 72	−7 47
BRIDGES.				
1892,	4	437 69	.....	.....
1893,	4	425 87	−11 82	.....
1894,	4	405 32	−20 55	.....
1895,	4	464 32	+59 00	+26 63
CAR SPRINGS.				
1892,	1	675 36	.....	.....
1893,	1	558 81	−116 55	.....
1894,	1	459 85	−98 96	.....
1895,	1	631 36	+171 51	−44 00
CAR COUPLERS.				
1892,	1	545 00	.....	.....
1893,	1	493 64	−51 36	.....
1894,	1	386 97	−106 67	.....
1895,	1	502 94	+115 97	−42 06
RUBBER BOOTS AND SHOES.				
1892,	1	436 25	.....	.....
1893,	1	415 63	−20 62	.....
1894,	1	366 16	−49 47	.....
1895,	1	378 67	+12 51	−57 58
CARAMELS.				
1892,	1	190 00	.....	.....
1893,	1	200 00	+10 00	.....
1894,	1	207 00	+7 00	.....
1895,	1	221 90	+14 90	+31 90

AVERAGE YEARLY EARNINGS (SPECIAL TABLE)—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS—162 ESTABLISHMENTS—FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN YARNS.				
1892,	5	$329 08	.....	.....
1893,	5	278 23	—$50 85	.....
1894,	5	273 73	—4 50	.....
1895,	5	307 55	+33 82	—$21 53
COTTON YARNS.				
1892,	2	301 81	.....	.....
1893,	2	276 46	—25 35	.....
1894,	2	235 59	—40 87	.....
1895,	2	279 30	+43 71	—22 51
HOSIERY.				
1892,	4	253 95	.....	.....
1893,	4	230 51	—23 44	.....
1894,	4	178 26	—52 25	.....
1895,	4	234 03	+55 77	—19 92
CARPETS.				
1892,	13	385 76	.....	.....
1893,	13	345 25	—40 51	.....
1894,	13	326 09	—19 16	.....
1895,	13	358 41	+32 32	—27 35
COTTON AND WOOLEN GOODS.				
1892,	6	336 54	.....	.....
1893,	6	293 79	—42 75	.....
1894,	6	272 03	—21 76	.....
1895,	6	274 04	+2 01	—62 50
COTTON GOODS.				
1892,	10	370 97	.....	.....
1893,	10	271 21	—99 76	.....
1894,	10	258 95	—12 26	.....
1895,	10	277 85	+18 90	—93 12
WOOLEN GOODS.				
1892,	3	367 20	.....	.....
1893,	3	310 08	—57 12	.....
1894,	3	257 79	—52 29	.....
1895,	3	305 50	+47 71	—61 70
KNIT GOODS.				
1892,	2	226 61	.....	.....
1893,	2	223 11	—3 50	.....
1894,	2	223 53	+42	.....
1895,	2	248 42	+24 89	+21 8[illegible]

AVERAGE YEARLY EARNINGS (SPECIAL TABLE)—Concluded.

COMPARISON OF AVERAGE YEARLY EARNINGS—162 ESTABLISHMENTS—FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WORSTED GOODS.				
1892,	1	$436 94	.....	.....
1893,	1	422 15	—$14 79	.....
1894,	1	447 67	+25 52	.....
1895,	1	437 10	—10 57	+$0 16
MIXED TEXTILES.				
1892,	3	395 26	.....	.....
1893,	3	354 61	—40 65	.....
1894,	3	314 08	—40 53	.....
1895,	3	335 53	+21 45	—59 73
SILK THROWSTERS.				
1892,	3	218 49	.....	.....
1893,	3	217 80	—69	.....
1894,	3	232 05	+14 25	.....
1895,	3	243 42	+11 37	+24 93
SILK BROAD GOODS.				
1892,	5	240 59	.....	.....
1893,	5	224 62	—15 97	.....
1894,	5	245 90	+21 28	.....
1895,	5	247 99	+2 09	+7 40
GLASSWARE.				
1892,	2	485 11	.....	.....
1893,	2	370 48	—114 63	.....
1894,	2	467 39	+96 91	.....
1895,	2	308 15	—159 24	—176 96
PIANOS AND ORGANS.				
1892,	1	404 18	.....	.....
1893,	1	403 16	—1 02	.....
1894,	1	376 55	—26 61	.....
1895,	1	381 52	+4 97	—22 66
CARBONS.				
1892,	1	520 83	.....	.....
1893,	1	540 00	+19 17	.....
1894,	1	527 27	—12 73	.....
1895,	1	571 43	+44 16	+50 60

AVERAGE NUMBER OF PERSONS EMPLOYED (SPECIAL TABLE).

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED IN 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

(While comparison of average number of persons employed in the 381 establishments considered has already been given in full, but as quantity of product was only reported by 162, this extra table covering the 162 establishments is furnished that comparison may be made therewith. The complete table of average number of persons employed precedes the analysis.)

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed.	Increase(+) or decrease (—) as compared with previous year.	Increase(+) or decrease (—) 1895 as compared with 1892.
PIG METAL.				
1892,	14	2,938	.....	.....
1893,	14	2,432	—506	.....
1894,	14	1,962	—470	.....
1895,	14	2,496	+534	—442
BAR, SHEET AND PLATE IRON.				
1892,	22	8,359	.....	.....
1893,	22	7,572	—787	.....
1894,	22	5,781	—1,791	.....
1895,	22	7,068	+1,287	—1,291
IRON AND STEEL.				
1892,	24	31,659	.....	.....
1893,	24	28,868	—2,791	.....
1894,	24	27,478	—1,390	.....
1895,	24	32,597	+5,119	+938
STEEL.				
1892,	13	13,075	.....	.....
1893,	13	10,585	—2,490	.....
1894,	13	9,778	—807	.....
1895,	13	12,138	+2,360	—937
NUTS, BOLTS, ETC.				
1892,	2	615	.....	.....
1893,	2	695	+80	.....
1894,	2	560	—135	.....
1895,	2	638	+78	+23
PIPES AND TUBES.				
1892,	3	1,296	.....	.....
1893,	3	1,276	—20	.....
1894,	3	1,244	—32	.....
1895,	3	1,398	+154	+102
IRON FOUNDERS AND MACHINE WORKS.				
1892,	7	697	.....	.....
1893,	7	591	—106	.....
1894,	7	564	—27	.....
1895,	7	691	+127	—6

AVERAGE NUMBER OF PERSONS EMPLOYED (SPECIAL TABLE)—Cont.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED IN 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	5	586	.....	.....
1893,	5	608	+22	.....
1894,	5	609	+1	.....
1895,	5	608	—1	+22
MALLEABLE IRON.				
1892,	2	401	.....	.....
1893,	2	362	—39	.....
1894,	2	293	—69	.....
1895,	2	367	+74	—34
IRON CHAINS.				
1892,	1	95	.....	.....
1893,	1	75	—20	.....
1894,	1	65	—10	.....
1895,	1	81	+16	—14
BRIDGES.				
1892,	4	1,217	.....	.....
1893,	4	971	—246	.....
1894,	4	647	—324	.....
1895,	4	970	+323	—247
CAR SPRINGS.				
1892,	1	207	.....	.....
1893,	1	187	—20	.....
1894,	1	108	—79	.....
1895,	1	107	—1	—100
CAR COUPLERS.				
1892,	1	663	.....	.....
1893,	1	570	—93	.....
1894,	1	416	—154	.....
1895,	1	606	+190	—57
RUBBER BOOTS AND SHOES.				
1892,	1	325	.....	.....
1893,	1	350	+25	.....
1894,	1	350	.....	.....
1895,	1	398	+48	+73
CARAMELS.				
1892,	1	500	.....	.....
1893,	1	400	—100	.....
1894,	1	390	—10	.....
1895,	1	400	+10	—100

AVERAGE NUMBER OF PERSONS EMPLOYED (SPECIAL TABLE)—Cont.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED IN 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed.	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WOOLEN YARNS.				
1892,	5	365	.....	.....
1893,	5	374	+9	.....
1894,	5	343	—31	.....
1895,	5	394	+51	+29
COTTON YARNS.				
1892,	2	169	.....	.....
1893,	2	128	—41	.....
1894,	2	140	+12	.....
1895,	2	164	+24	—5
HOSIERY.				
1892,	4	927	.....	.....
1893,	4	846	—81	.....
1894,	4	590	—256	.....
1895,	4	1,090	+500	+163
CARPETS.				
1892,	13	2,460	.....	.....
1893,	13	2,161	—299	.....
1894,	13	2,088	—73	.....
1895,	13	2,269	+181	—191
COTTON AND WOOLEN GOODS.				
1892,	6	823	.....	.....
1893,	6	777	—46	.....
1894,	6	694	—83	.....
1895,	6	770	+76	—53
COTTON GOODS.				
1892,	10	2,609	.....	.....
1893,	10	2,424	—185	.....
1894,	10	2,214	—210	.....
1895,	10	2,218	+4	—391
WOOLEN GOODS.				
1892,	3	625	.....	.....
1893,	3	597	—28	.....
1894,	3	578	—19	.....
1895,	3	621	+43	—4
KNIT GOODS.				
1892,	2	492	.....	.....
1893,	2	527	+35	.....
1894,	2	393	—134	.....
1895,	2	533	+140	+41

AVERAGE NUMBER OF PERSONS EMPLOYED (SPECIAL TABLE)—Conc.

COMPARISON OF AVERAGE NUMBER OF PERSONS EMPLOYED IN 162 ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895.

Character of Industries and Years.	Number of establishments considered.	Average number of persons employed	Increase (+) or decrease (—) as compared with previous year.	Increase (+) or decrease (—) 1895 as compared with 1892.
WORSTED GOODS.				
1892,	1	256	.....	.....
1893,	1	224	—32	.....
1894,	1	175	—49	.....
1895,	1	217	+42	—39
MIXED TEXTILES.				
1892,	3	433	.....	.....
1893,	3	378	—55	.....
1894,	3	403	+25	.....
1895,	3	419	+16	—14
SILK THROWSTERS.				
1892,	3	540	.....	.....
1893,	3	511	—29	.....
1894,	3	603	+92	.....
1895,	3	634	+31	+94
SILK BROAD GOODS.				
1892,	5	2,282	.....	.....
1893,	5	1,557	—725	.....
1894,	5	1,927	+370	.....
1895,	5	2,439	+512	+157
GLASSWARE.				
1892,	2	2,808	.....	.....
1893,	2	2,524	—284	.....
1894,	2	1,879	—645	.....
1895,	2	2,774	+895	—34
PIANOS AND ORGANS.				
1892,	1	62	.....	.....
1893,	1	62	.....	.....
1894,	1	62	.....	.....
1895,	1	62	.....	.....
CARBONS.				
1892,	1	48	.....	.....
1893,	1	50	+2	.....
1894,	1	55	+5	.....
1895,	1	49	—6	+1

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES BY INDUSTRIES. YEAR 1895.

PIG METAL.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
419	150	300	$75,270 85	75,314	$810,195 92
16	96	312	50,332 29	17,634	193,974 71
21	95	365	63,973 00	57,270	622,393 60
80	225	365	88,089 40	76,123	711,732 42
128	225	365	120,303 28	93,653	1,073,155 41
150	140	358	82,827 41	85,768	904,487 10
816	180	280	50,088 60	28,975	337,233 25
634	90	365	38,558 32	35,636	344,336 00
933	58	120	27,660 95	16,363	157,057 50
1,195	127	325	74,373 00	80,554	865,955 50
1,239	70	125	13,549 65	5,750	59,800 38
2,334	100	365	49,272 93	37,575	300,339 00
2,383	250	365	85,519 85	57,116	535,468 50
2,529	115	358	61,809 50	62,415	624,150 00
2,623	120	365	68,000 00	60,404	577,077 75
2,316	24	160	5,400 00	1,140	20,520 00
2,827	19	195	8,400 00	2,841	55,000 00
2,544	100	365	73,800 00	63,216	663,768 00
32	49	122	20,728 00	6,408	62,176 00
84	61	321	27,571 72	20,880	182,903 12
147	470	310	215,608 25	149,974	1,748,044 49
165	602	268	156,593 02	64,281	849,555 99
2,293	450	215	110,697 19	35,000	385,000 00
645	613	365	287,016 99	236,738	2,704,053 68
1,026	185	336	57,664 42	57,310	499,502 95
1,206	250	194	62,559 31	47,602	499,821 00
2,241	87	324	43,409 52	46,923	448,681 16
2,472	83	323	26,712 00	2,136	53,900 00
2,547	132	365	95,059 66	71,360	721,122 86
2,633	233	308	87,667 39	74,112	959,560 00
2,792	36	292	8,069 85	1,610	28,810 00
20	103	319	46,829 20	37,855	371,789 00
15	130	165	26,186 96	16,623	176,630 20
19	100	240	51,068 83	35,157	346,185 00
71	182	365	70,614 79	63,021	624,890 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

PIG METAL—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product	Value of product.
				Tons.	
89	227	313	$108,434 70	84,575	$769,632 00
148	90	362	55,115 00	44,205	464,152 00
204	399	365	191,096 04	149,867	1,624 563 70
498	325	365	149,236 76	165,480	1,836,530 49
808	98	197	33,840 48	18,367	236,887 33
1,194	225	354	70,989 78	68.232	682,320 00
1,227	160	74	14,442 74	10,235	100,328 31
2,318	51	30	1,668 35	1,428	12,740 00
2,384	75	345	30,191 98	31,330	304,932 56
2,482	470	306	215,608 25	170,620	1,718,044 40
2,556	288	365	174,697 10	155,286	1,501,970 38
2,699	55	204	12,942 38	10,689	124,072 00
2,798	135	116	26 599 23	15,384	158,044 00

IRON AND STEEL.

44	320	233	178,307 72	17,819	507.133 57
88	120	257	41,261 70	3,037	108,735 42
102	182	308	112,291 54	10,000	238,141 22
1,182	319	271	149,939 70	16,064	393,555 88
2,333	40	320	13,000 00	1,000	33,000 00
2,810	110	260	54,373 00	7,567	184,286 06
85	150	280	52,466 66	8,000	196,112 91
43	455	293	229,368 40	14,452	590,237 39
118	1,436	248	559,342 25	50,959	1,702,722 45
169	300	302	157,000 00	12,000	537,250 00
2,406	130	197	55,369 93	10,962¾	252,221 00
2,813	740	300	293,694 00	55,463	1,343,110 00
2,345	92	134	20,334 47	5,078¾	91,186 40
22	275	320	17,563 02	3,218	104,273 65
70	390	261	184,732 57	35,618	1,156,504 68
186	5	16	46 20	260	7,900 00
17	275	90	44,794 85	3,946	119,564 16
101	1,170	310	546,414 17	29,112	1 375,949 07
1,388	425	200	138,292 55	10,080	473,743 00
2,372	110	120	18,500 00	3,431	75,000 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON AND STEEL—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,814	90	290	$30,575 00	4,950	$119,340 00
2,360	65	79	6,351 77	1,506	29,925 13
66	73	260	26,053 76	4,690	185,039 96
45	3,874	309	2,067,116 69	467,540	6,388,000 00
205	6,999	291	3,347,182 00	300,297½	7,001,045 00
41	847	308	504,829 97	32,788	1,822,531 05
2,621	190	310	73,405 65	9,057	228,093 28
121	450	130	114,000 00	12,000	400,000 00
3	300	233	112.581 60	16,014	403,877 05
58	245	292	94,364 94	17,373	504,458 98
60	379	281	143,290 82	13,341	373,136 54
64	725	300	404,375 00	30,780	804,313 00
934	100	281	65,197 07	19,907	584,846 25
2,309	68	300	35,286 00	3,422¾	121,502 28
2,809	30	171	9,373 61	1,356	35,505 86
672	75	275	45,621 75	6,012	160,171 52
2,304	180	291	66,000 00	19,733	467,000 00
67, 141 and 143	13,102	365	7,593,557 78	2,869,292	53,280,200 45
14	530	271	108,572 17	12,220	366,462 90
40	175	290	106,614 18	6,355	315,000 00
2,807	130	250	53,013 98	5,497½	141,052 09
62	155	250	52,211 58	5,904	164,603 48
703	600	306	416,937 85	82,967¾	1,984,879 12
90	142	256	67,000 00	9,400	245,000 00
674	350	200	99,875 25	14,000	424,890 00
2,323	50	75	9,460 30	1,800	58,538 67
79	401	228	175,726 59	14,575	653,620 00
112	150	283	110,759 88	6,130	284,659 00
120	250	300	175,420 00	10,261	598,522 00
2,778	641	150	240,542 24	40,076	998,120 66
2,637	375	150	175,000 00	25,000	700,000 00
2,559	257	365	115,462 84	8,592¾	225,130 88
28	250	250	75,338 60	8,990	256,453 86
181	720	46	28,848 13	26,335	542,353 19
2,241	157	146	26,310 30	4,832	77,712 54
127	850	272	525,826 06	139,100	2,620,000 00
179	75	287	32,943 08	4,690	133,406 20
72	350	275	148,126 42	50,192	1,475,062 22
2,804	280	300	104,973 44	21,085½	485,429 46

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON AND STEEL—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,191	500	270	$193,312 51	11,025	$651 375 14
932	200	150	45 739 58	2,314	148,096 00
1,178	275	300	148,302 58	5.028	292,916 19
2,480	175	300	56,466 17	2,533	160,263 74
2,767	145	285	74,800 00	3,937	245,000 00
499	25	49	1,906 09	838	35,520 00
2,350	125	233	49,000 00	5.879	178,669 52
50	975	301	556,888 79	18,366	1,682,485 37
192	375	270	258,128 40	13,182¼	592,355 72
2,653	30	180	11,337 63	641½	25,640 00
36	663	305	354,225 37	*	1,011,936 38
2,563	268	230	116,500 00	3,170	329,474 67
29	200	130	32 000 00	4,000	119,500 00
163	2,409	365	965,165 87	168,834	4,879,666 86
111	225	285	148,210 50	*	507.548 12
558	500	365	153,218 76	62,659	851,932 84
184	230	220	76,434 85	8,275	223,425 00
1,732	150	300	92,369 55	11,991	318,043 26
2,404	126	227	31,705 17	7,984½	161,698 00
487	400	250	234,785 98	9,774	572,290 41
1,923	125	275	63,560 75	3,991	265,000 00
2,766	269	180	92,898 41	4,585	293,225 59
51	318	285	165,444 73	6,263	321,946 85
673	328	231	163,590 91	9,527½	508,944 64
145	567	302	263,274 30	42,421	1,484,735 00
2,751	145	84	27,671 15	1,633	96,334 68
42	430	295	241,779 47	10,835	691,471 15
2,489	150	135	39,501 13	2,205	107,099 14
2,820	275	151	84,126 90	4,844¾	209.863 62
471	150	283	110,759 88	6,130	284,659 00
132	36	282	18,000 00	988	52,800 00
139	400	250	220,982 89	17,451	627,584 96
119	200	160	58,139 00	4.671	149,472 00
183	278	260	75,473 08	11,292	312,309 99
122	360	245	122,942 55	18,630	577,655 84
1,218	1,099	301	359,487 18	46.577	982 637 09
190	81	349	33 844 74	9,258	290,631 51
1,826	300	260	165,284 10	16,346	441,529 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON AND STEEL FORGINGS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
500	81	300	$30,953 00	850	$90,407 00
639	26	260	16,170 85	775	71,770 28
138	505	286	264,446 72	22,864	633,862 14
1,669	6	264	2,809 70	10	4,068 00
2,174	40	230	18,000 00	400	53,000 00
2,273	145	311	67,920 10	13,767	606,919 74
2,646	3	24	132 76	½	1,192 87
994	110	275	52,749 77	1,680	108,365 00
176	57	309	29,466 00	*	91,210 00
1,724	22	282	15,801 03	54	33,780 89
2,686	26	80	2,027 68	59½	5,640 73
2,272	14	300	7,017 00	*	13,364 94
1,534	10	305	5,380 06	52	16,169 80
1,592	26	308	13,158 84	975	62,742 93
2,014	18	303	14,693 74	*	31,064 31
2,306	8	177	2,104 81	121	7,000 64
1,935	995	309	627,495 10	14,334	1 582,192 97

STRUCTURAL IRON AND STEEL.

404	25	300	11,000 00	*	40,000 00
1,673	40	200	19,400 00	498	41,400 00
5	137	52	43,395 93	3,491	82,388 00
664	300	290	135,000 00	25,000	475,000 00
734	100	290	65,000 00	2,000	200,000 00
2 611	1,800	312	1,050,000 00	86,953	2,831,005 00
2,711	30	100	6,269 73	343	20,457 00
849	1,100	310	566 667 65	31,893	1,435,210 65

* Product not reported

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

MISCELLANEOUS IRON AND STEEL.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,348	2	200	*	6	$1,200 00
444	26	305	$4,882 00	.....	22,690 63
1,758	5	355	3,424 18	6	11,586 97
892	7	90	1,050 00	20	3,500 00
1,754	37	309	20,082 47	†	97,436 39
963	8	200	3,000 00	150	14,000 00
975	1	200	300 00	†	1,000 00
1,805	2	150	700 00	8½	1,300 00
443	10	200	4,215 78	42	16,752 27
2,012	15	306	10,215 76	120	26,575 26
2,180	30	309	11,675 68	85,543	27,363 05
2,017	38	300	12,493 26	350	85,150 50
				600 sinks.	
2,157	28	300	13,676 00	10,500 tubs.	63,940 00
				Tons.	
2,823	4	300	2,880 00	25	4,165 00
757	8	238	3,652 00	†	6,703 97
997	6	301	2,541 17	†	7,125 45
				Gross.	
2,367	55	305	19,732 42	650,000	55,000 00
				Tons.	
1,231	8	300	3,725 00	700	6,000 00
2,832	1	63	189 00	1	667 00
1,099	11	278	3,253 61	65½	4,250 00
				Feet.	
2,062	38	290	18,700 00	1,700,000	118,978 65

IRON AND STEEL FENCING AND RAILING.

				Tons.	
450	2	300	900 00	10	3,000 00
553	20	246	14,348 00	406	45,589 00
1,072	2	306	600 00	7	1,600 00
1,331	5	290	1,262 17	25	2,672 70
				Ft.	
1,063	5	306	1,523 60	8,091	8,020 00

* Wages not reported.
† Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON AND STEEL FENCING AND RAILING—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,691	2	150	$75 00	10	$800 00
2,590	7	120	1,083 42	40	4,500 00
2,111	4	305	1,500 00	.....	3,000 00
1,737	15	304	6,334 11	140	18,418 72
				Ft.	
911	3	301	1,219 05	2,000	2,887 08
482	4	240	1,050 91	.....	5,664 70
				Tons.	
1,715	6	300	2,900 00	25	5,500 00
1,119	1	125	150 00	.....	937 06
				Ft.	
2,194	7	218	2,943 00	20,314	7,179 99
1,091	31	271	11,082 92	.....	27,892 22
				Tons.	
2,230	5	311	2,988 88	98	8,025 11
2,129	4	300	2,100 00	120	5,500 00
2,085	4	253	1,500 00	30	3,500 00
1,910	6	310	3,750 00	.....	16,000 00
423	3	180	720 00	.....	2,600 00
980	3	300	2,300 00	12	4,000 00
1,204	3	20	60 00	.....	150 00
2,396	5	295	2,000 00	80	4,500 00
1,278	4	250	2,000 00	15	2,500 00
1,151	5	300	2,600 00	.....	82,000 00
2,117	5	276	1,509 60	40	5,090 50
*1,512	.....	.....	.....	2	700 00
1,833	1	200	300 00	.....	900 00

IRON AND STEEL BRIDGES.

847	175	310	149,900 00	19,000	1,550,766 92
33	253	309	99,660 67	8,353	466,612 92
2,410	300	300	110,246 00	10,072	555,000 00
35	325	308	129,049 40	9,000	507,524 47
75	144	311	81,815 04	5,028	301,680 00
2,271	125	308	58,150 95	3,365	201,900 00
34	248	283	139,866 28	10,475	517 500 00
845	10	300	4,320 00	110	8,800 00

* Average number of persons employed; number of days in operation and aggregate amount of wages paid not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

STEEL INGOTS, BLOOMS, &c.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,078	2,777	142	$1,067,316 85	269,074	$4,805,661 00
610	329	285	198,472 17	139,546¾	2,169,032 75
455	300	250	118,607 56	15,509	412,793 55
852	16	270	5,500 00	1,500	37,000 00
850	12	218	2,888 27	805	12,326 38
823	45	250	12,048 00	1,052	35,250 25

TOOL STEEL.

710	12	86	2,723 05	26½	6,562 05
2,005	4	306	4,671 38	144	9,663 81
901	30	250	20,699 61	336	71,324 06

STEEL CASTINGS.

83	120	310	49,441 36	983	128,247 27
2,821	40	76	4,169 20	109	8,750 00
135	461	310	247,924 80	6,619	535,842 12
137	125	312	66,980 00	2,353	193,471 80
955	150	310	86,191 91	2,476	224,427 85
948	535	267	219,297 28	9,428	759,654 35
723	50	300	27,905 10	827	74,669 85

STEEL.

517	200	330	79,244 15	3,500	222,857 69
193	187	313	115,509 69	8,641	719,868 35
113	400	300	248,359 00	10,556	917,403 00
114	590	219	443,504 00	12,051	964,544 00
525	321	296	155,205 61	6,836½	365,605 94
676	103	305	39,602 38	2,821½	219,721 77
753	85	300	46,116 59	2,729¾	173,561 31
2,245	80	230	31,264 00	5,206	104,000 00
2,331	37	207	11,290 13	585	30,573 56
1,197	550	283	321,400 00	184,528	2,726,910 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

STEEL—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
117	32	276	$19,850 00	2,100	$162,700 00
203	2,422	229	927,437 00	139,856	3,071,430 00
144	150	200	83,625 40	8,551	299,155 57
140	2,325	311	1,144,437 34	113,988¼	4,539,947 29
604	30	290	26,000 00	1,600	88,000 00
697	10	285	8,000 00	175	28,000 00
803	6	208	3,539 27	*	5,545 77
2,261	65	365	41,973 00	3,452½	122,950 00
2,812	112	146	26,521 66	3,726	89,424 00
2083¾	430	290	291,479 00	6,969	769,364 05
47	277	244	210,272 53	34,156	1,089,793 62
115	400	300	196,000 00	36,000	920,000 00
57	4,300	281	1,927,424 62	232,472	6,147,157 11
630	105	288	57,279 00	4,161	205,641 46
751	80	300	51,303 52	448	155,888 35
1,256	15	200	7,500 00	320	22,500 00
2,328	184	296	110,927 63	755	210,084 56
1,186	30	280	5,094 16	924	36,963 95

IRON CASTINGS.

412	45	300	25,000 00	750	55,000 00
746	22	300	11,723 15	1,000	35,000 00
1,188	14	300	5,500 00	450	13,500 00
637	55	300	30,171 91	1,390	54,815 11
601	200	300	124,925 85	10,000	447,046 10
1,374	3	270	9 40	96	3,800 00
1,307	45	310	15,000 00	840	32,000 00
895	6	200	1,765 00	200	7,500 00
879	1	200	30 00	10	300 00
836	8	312	2,978 45	199	6,189 78
650	90	308	51,376 11	4,051	141,799 76
1,414	2	154	529 00	30	1,386 00
1,479	8	218	2,083 00	145	5,013 00
2,052	70	294	45,602 67	2,122	111 731 40
2,075	25	249	14,524 77	996	44,511 58

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON CASTINGS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,387	2	175	$600 00	120	$4,000 00
2,407	2	140	359 00	35	1,670 95
2,426	20	211	9,487 66	443	18,376 35
2,620	2	153	800 00	150	3,700 00
2,761	2	300	700 00	100	2,000 00
1,177	22	240	9,392 61	500	20,504 02
2,717	2	300	1,084 40	100	1,789 38
2,588	35	300	14,499 00	1,500	34,831 00
2,528	14	308	5,183 54	529	12,605 34
655	22	285	16,963 42	76	28,992 20
1,642	30	300	10,400 00	500	21,000 00
1,718	43	308	22,900 95	861	44,041 39
1,234	5	285	3,158 23	185	11,283 67
528	29	120	5,187 19	128	11,466 24
623	10	306	6,012 44	332	16,235 20
1,930	11	230	7,272 14	615	15,567 23
1,387	4	310	1,794 00	130	4,550 00
1,334	26	360	9,600 80	790	31,026 29
1,306	2	225	517 50	40	1,000 00
937	11	290	3,800 00	100	8,900 00
864	3	182	608 53	30	1,800 00
821	1	80	80 00	10	500 00
583	25	306	8,854 02	683	23,792 41
1,412	2	154	300 00	45	1,050 00
1,555	5	156	1,745 28	100	5,307 00
2,072	11	256	3,587 75	258	7,740 50
2,122	30	265	16,659 10	670	33,490 09
2,390	2	260	780 00	100	2,000 00
2,409	2	306	936 00	26	2,080 00
2,430	15	300	4,125 85	150	8,926 54
2,708	1	150	193 00	18	620 00
2,773	5	306	1,200 00	300	5,200 00
1,030	20	288	6,715 74	308	11,005 40
2,491	1	150	150 00	12	500 00
2,575	4	304	2,118 28	106½	4,014 88
2,540	8	230	1,805 00	420	5,802 00
428	18	296	11,701 56	214	17,076 66
1,661	62	304	42,848 56	1,680	68,009 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON CASTINGS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,846	8	238	$3,418 60	102	$6,449 27
1,608	15	308	12,854 66	12	18,132 35
509	6	299	3,136 75	316	9,615 83
520	33	301	10,772 93	175	20,404 14
1,847	12	277	6,106 42	624	15,600 00
1,386	12	280	4,680 00	130	10,500 00
1,313	10	250	4,000 00	300	10,000 00
1,223	16	301½	5,728 02	465	12,891 41
884	12	308	4,228 69	11	8,385 00
857	1	60	100 00	10	700 00
792	2	50	150 00	5	400 00
513	135	292	64,510 35	698	230,327 40
1,423	3	150	825 00	60	2,000 00
1,602	25	228	16,028 12	2,239	37,528 64
2,064	30	300	12,283 54	750	28,550 19
2,236	66	300	36,039 80	3,447	145,347 70
2,391	10	218	3,761 60	528	16,297 49
2,415	9	275	2,376 89	51	4,000 00
2,615	6	177	1,330 00	140	5,027 50
2,661	6	295	2,749 00	1,188	17,996 42
2,774	4	275	1,500 00	100	4,000 00
869	2	76	183 00	5½	688 90
2,503	2	60	44 00	9	287 00
2,549	22	212	11,762 95	968	28,364 32
2,546	42	302	19,564 85	1,034	61,929 00
418	20	300	9,968 52	550	18,370 70
1,743	70	300	39,304 85	2,595	90,825 88
1,850	20	305	9,353 13	261	14,929 82
1,897	12	300	6,202 07	277	13,398 65
1,634	20	310	8,500 00	300	22,460 00
48	145	274	90,105 45	2,630	194,879 38
68	56	270	34,200 00	1,695	67,800 00
97	300	300	146,960 46	2,244	366,728 58
131	155	303	92,345 42	6,981	365,294 28
166	70	308	35,636 15	1,603	80,015 30
1,922	15	200	6,349 90	252	16,824 09
643	25	300	10,840 92	858	30,038 31
155	222	271	95,385 22	2,518	172,278 10

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON CASTINGS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
93	98	298	$60,609 67	2,855	$114,210 34
99	68	265	28,907 16	1,930	77,359 80
133	135	292	65,769 30	6,988	239,327 40
173	123	308	49,010 34	1,975	96,128 21
1,753	100	311	48,596 00	2,500	90,606 90
2,753	33	159	8,486 49	43	3,112 88
52	45	185	17,601 88	6,859	122,473 62
92	51	285	28,849 91	1,123	54,160 25
134	37	287	18,701 65	1,422	54,160 23
189	32	290	16,035 68	851	42,578 68

BUILDING IRON.

1,139	4	235	1,875 10	24	6,097 00
2,326	20	295	4,800 00	230	14,000 00
2,369	30	300	10,500 00	385	40,600 00
2,644	17	306	8,492 02	150	35,501 15
1,857	3	305	1,450 57	11	3,068 72
1,656	17	310	9,246 02	*	23,622 56
1,564	45	300	26,176 00	2,000	85,250 00
1,520	50	307	23,556 00	*	52,000 00
716	5	260	2,625 00	155	9,300 00
577	7	306	4,200 00	16	9,000 00
421	2	306	350 00	50	3,500 00
1,117	6	160	1,600 00	150	4,600 00
1,907	25	311	14,692 58	1,000	72,421 30
				Escapes.	
2,027	20	306	6,500 00	210	26,250 00
				Tons.	
1,722	3	300	1,800 00	5	3,000 00
91	132	300	72,217 04	*	153,742 82
2,370	10	306	4,000 00	*	10,000 00
2,205	30	308	16,221 22	*	43,893 34
2,173	101	303	57,081 29	*	145,577 95
1,735	15	299	8,255 36	28	18,560 00
1,655	26	301	12,429 29	668½	82,469 69
1,546	24	307	16,002 37	*	48,138 25

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

BUILDING IRON—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
721	14	305	$7,667 45	*	$182,231 44
632	35	306	20,912 00	*	53,000 00
540	12	305	10,000 00	*	50,000 00
408	9	275	3 517 06	593	31,513 72
2,123	18	303	9,228 27	138	20,558 19
1,297	3	202	1,737 63	*	15,000 00
1,242	3	287	1,700 00	175 Registers. 39 Tells,	4,700 69
				Tons.	
1,921	42	306	23,183 23	500	65,000 00
2,143	56	306	32,900 00	*	73,000 00
1,730	72	306	47,356 21	*	118,451 38
2,203	8	300	6,512 00	36	11,677 17
1,911	5	308	3,080 00	40½	4,000 00
1,666	8	216	4 320 00	11½	12,000 00
1,578	50	303	23,698 25	83	85,753 21
1,541	25	308	14,004 19	90	30,567 08
719	30	306	19,865 70	*	58,705 68
584	16	300	8,320 00	120	26,347 98
431	8	308	5 055 00	*	12,575 09
924	9	306	2,859 30	*	6,641 52
1,852	4	300	1,000 00	8	2,500 00
2,232	6	37	444 00	3¾	800 00
1,674	8	308	5,980 00	28	15,878 00

MISCELLANEOUS IRON.

56	127	300	53,697 48	4,615½	234,806 72
194	125	268	63,281 54	7,410	197,499 31
999	23	265	7,775 00	*	29,817 84
390	112	305	55,000 00	*	125,000 00
69	14	303	8,475 26	*	34,800 00
199	150	305	67,952 00	*	250,300 00
25	606	285	304,785 87	12,000	985,258 46
1,528	25	300	8,000 00	*	100,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON FOUNDRIES AND MACHINE WORKS.

Number of return.	Average number of persons employed	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
555	29	306	$22,789 37	*	$54,381 31
733	80	308	49,139 01	*	90,458 00
756	75	290	44,160 00	1,462	80,168 49
767	97	306	49,111 49	1,559	90,646 13
797	6	260	1,846 00	30	4,000 00
801	12	312	5,400 00	175	19,000 00
825	4	312	1,600 00	75	5,500 00
828	10	306	4,244 00	*	11,000 00
877	9	306	2,767 58	80	7,966 68
946	3	306	700 00	50	3,000 00
972	40	284	23,353 72	1,166	51,172 05
1,049	30	305	11,962 00	351	31,931 00
1,066	50	309	28,781 06	984	62,199 86
1,068	2	312	2,000 00	50	4,000 00
1,107	20	308	6,304 12	308	24,625 45
1,111	8	300	2,603 42	115	4,212 00
1,121	40	300	15,000 00	*	36,000 00
1,141	11	302	5,500 00	300	12,000 00
1,164	6	300	2,550 00	*	4,110 00
1,196	12	295	4,200 00	110	9,000 00
1,230	45	305	21,541 39	689	51,742 18
1,243	36	306	17,477 10	*	58,705 88
1,248	10	355	43,000 40	90	7,000 00
1,275	1	260	480 00	*	800 00
1,279	20	300	7,332 50	250	11,553 90
1,282	65	307	25,810 81	967	77,805 13
1,343	2	275	800 00	40	2,450 00
1,344	21	311	16,834 55	583	33,289 04
1,353	6	300	2,213 03	75	4,666 21
1,375	23	288	10,065 00	*	20,425 00
1,403	7	290	2,760 00	144	8,000 00
1,409	4	55	330 00	40	1,450 00
1,411	4	275	612 50	75	1,200 00
1,424	4	260	2,080 00	*	3,551 00
1,428	6	200	1,770 00	*	3,550 00
1,429	4	303	1,271 22	48	2,687 25
1,430	6	300	2,500 00	2,000	7,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON FOUNDRIES AND MACHINE WORKS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,433	3	306	$1,200 00	25	$2,000 00
1,469	4	300	1,800 00	1,040	2,600 00
1,557	3	306	2,400 00	4	3,500 00
1,681	56	231	21,947 99	*	67,778 68
1,751	119	294	80,444 49	1,298	150,402 26
1,809	66	300	43,968 00	1,018	74,953 03
2,068	45	300	26,033 66	*	57,333 87
2,239	2	300	1,000 00	*	1,500 00
2,243	6	275	3,000 00	200	5,000 00
2,246	430	295	241,779 47	10,835	691,471 15
2,256	15	300	6,000 00	36	15,000 00
2,258	5	300	1,500 00	25	3,000 00
2,263	12	250	4,700 00	250	10,500 00
2,274	8	75	3,000 00	182	15,000 00
2,308	76	306	27,859 20	670	166,427 60
2,317	29	281	9,400 00	800	28,780 00
2,366	32	305	13,000 00	468	60,000 00
2,388	296	302	107,250 63	55,000	345,000 00
2,400	60	305	28,642 00	1,000	75,000 00
2,402	4	300	1,352 22	*	4,345 25
2,403	3	300	1,000 00	50	3,000 00
2,408	2	175	450 00	40	1,500 00
2,435	9	300	4,569 00	*	15,300 00
2,483	8	300	3,600 00	175	5,500 00
2,484	7	200	2,100 00	50	8,000 00
2,485	41	283	13,975 00	*	30,864 29
2,490	45	293	22,840 00	775	42,800 00
2,512	4	208	2,500 00	60	5,000 00
2,530	6	190	1,500 00	*	3,000 00
2,571	6	300	2,250 00	60	6,000 00
				69 Boilers.	
				63 Heaters.	
2,606	30	300	12,887 91	20 Tons Cast'gs,	31,681 92
2,608	2	306	652 04	*	3,371 93
2,672	14	306	6,329 00	*	12,000 00
				Tons.	
2,695	2	59	230 00	13	900 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON FOUNDRIES AND MACHINE WORKS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,741	2	100	$360 00	12	$720 00
13	200	313	61,292 00	7,321	183,625 00
103	375	315	230,000 00	8,000	675,000 00
53	145	306	60,000 00	3,271	104,600 00
2,197	15	302	9,886 72	45	20,634 60
1,405	*	150	10 00	7	300 00
1,081	32	306	18,000 00	550	58,350 00
461	75	290	41,160 00	1,462	80,168 49
2,750	2	264	723 96	*	2,882 54
1,478	44	250	12,725 00	200	27,825 00
1,338	420	360	183,446 20	46,000	453,925 00
2,190	18	290	9,246 00	272	15,123 04
2,487	4	280	1,320 40	60	1,845 60
2,754	8	310	5,900 00	312	12,000 00
1,356	16	309	6,619 04	*	33,075 19
1,316	3	306	820 00	142 pcs,	5,123 00
1,726	7	306	3,500 00	*	7,835 74
2,100	2	260	520 00	3 tons,	2,000 00
1,896	4	275	1,200 00	¾ "	1,500 00
2,221	6	310	3,906 66	2	6,853 26
2,603	4	300	1,000 00	2	2,500 00
1,096	10	311	3,807 48	*	9,205 00
1,712	12	280	10,643 80	10	17,784 11
2,719	19	312	13,352 00	385	25,820 00
9	225	295	95,697 70	*	250,000 00
125	121	308	74,589 00	2,523	204,754 00
126	116	308	70,367 25	*	423,049 27
2,569	2	200	150 00	25	2,000 00
1,947	12	302	7 527 00	32	15,782 00
1,366	11	301	4,437 09	*	9,488 91
2,612	120	260	40,134 68	1,558	83,298 73
2,276	275	290	154,470 05	3,158	343,934 36
1,401	70	301	23,500 00	720	47,000 00
1,547	100	306	55,136 75	933	155,321 81
2,269	45	300	19,330 30	800	38,700 00
957	30	312	10,417 74	*	21,585 54
2,674	10	306	6,117 46	44	18,292 38

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON FOUNDRIES AND MACHINE WORKS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,770	46	309	$24,898 68	*	$54,067 53
1,372	2	290	1,150 00	3	5,000 00
1,782	18	58	1,897 01	*	3,807 58
2,044	5	308	2,500 00	*	4,350 00
1,876	3	300	912 00	5	2,850 00
2,172	20	310	11,652 00	*	32,193 86
2,454	3	308	1,800 00	12	6,500 00
1,361	3	305	1,472 50	2	3,000 00
1,781	6	308	3,000 00	*	5,644 00
2,764	7	306	3,570 00	*	8,830 00
55	50	250	24,000 00	1,200	48,000 00
1,996	15	306	10,712 00	*	26,151 00
1,904	40	306	22,646 00	*	53,185 48
2,311	13	278	5,615 00	248	10,335 38
1,200	65	302	31,273 41	4,530	100,000 00
1,440	14	309	6,240 00	470	28,400 00
2,742	1	300	250 00	13	975 00
1,481	50	304	15,776 00	167	41,820 00
813	30	305	18,315 00	240	24,000 00
1,571	10	104	1,597 05	*	4,500 00
2,420	10	306	4,601 65	37	8,288 46
922	14	299	6,539 15	300	13,000 00
1,249	4	292	1,398 15	300	3,738 31
1,000	2	175	375 00	400	800 00
1,752	12	309	6,614 46	3	5,410 00
1,869	2	307	950 00	7½	1,676 96
1,981	8	312	3,949 86	10	6,362 06
2,130	30	310	17,860 00	*	47,439 00
2,622	6	308	3,120 00	24	6,000 00
1,098	3	300	825 00	*	2,380 00
1,689	2	186	964 75	5	1,688 80
737	10	308	6,950 00	*	26,000 00
866	20	309	9,158 00	160	24,000 00
587	3	280	2,500 00	15	6,591 46
468	92	300	36,650 30	2,000	58,388 40
1,515	8	300	2,500 00	3	5,625 00
593	6	309	2,962 50	*	10,787 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

IRON FOUNDRIES AND MACHINE WORKS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
738	8	310	$6,000 00	50	$10,000 00
1,503	3	310	800 00	4½	3,500 00
605	12	308	8,520 57	265	24,939 65
129	178	307	108,210 00	*	348,717 00

SPECIAL MACHINERY.

2,091	1	300	$1,000 00	.....	$3,000 00
912	30	300	14,141 18	262	40,190 74
107	253	306	125,162 72	*	304,473 81
				Wheels.	
1,147	2	308	980 00	3,000	3,000 00
595	26	280	13,000 00	650	26,000 00
807	50	300	21,171 62	722	39,334 70
				Machines.	
1,294	10	300	6,936 88	34	44,790 31
				Tons.	
1,349	70	309	29,612 60	1,000	95,821 82
1,550	80	305	53,571 16	*	150,768 66
1,619	12	310	6,760 00	*	11,956 09
1,639	25	304	16,113 03	*	39,502 37
1,706	22	300	12,043 33	*	52,275 33
201	104	305	51,462 00	*	175,000 00
1,818	12	305	6,064 88	*	14,860 00
1,899	148	305	97,708 76	*	170,539 77
1,982	4	300	4,060 47	*	8,024 00
1,287	4	300	2,400 00	9	6,500 00
2,126	124	307	72,901 78	*	173,815 51
2,596	60	306	30,760 52	*	110,059 51
1,804	8	311	5,609 62	7 Machines,	12,000 00
1,161	4	250	937 50	18 "	8,668 00
930	80	300	43,422 19	*	111,931 52
				Tons.	
1,012	8	300	4,120 00	124	18,500 00
1,048	212	305	82,317 95	2,600	230,000 00
1,106	40	270	16,480 00	180	57,341 66
2,082	8	306	4 100 00	30	15,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

SPECIAL MACHINERY—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,777	102	300	$65,598 38	*	$154,338 39
1,201	175	293	31,744 24	944	101,663 75
942	15	228	3,040 00	*	15,349 31
883	25	309	9,357 12	125	24,356 87
				Prs. fifth wheels.	
1,719	2	18	55 36	50	143 00
727	10	222	3,500 00	*	38,764 00
989	16	300	9,992 09	*	17,763 00
1,408	3	150	900 00	*	3,000 00
1,293	6	310	2,925 00	*	10,500 00
				Tons.	
1,346	5	300	1,875 00	70	4,500 00
1,570	40	305	29,981 95	*	52,449 37
1,626	3	312	1,620 00	*	8,520 00
				293 Elec. Mach.	
1,665	45	312	31,395 09	80 Dr'l'g Mach.	69,395 55
1,711	145	295	83,985 86	*	143,374 17
1,759	20	306	10,000 00	*	17,000 00
1,867	7	288	4,416 00	*	11,500 00
				Tons.	
1,908	3	309	2,300 00	3	3,500 00
1,993	12	309	7 000 00	2	13,675 00
				Machines.	
2,109	6	331	4,180 00	60	13,000 00
				Tons.	
2,303	80	294	26,381 76	837	65,008 13
2,649	250	302	189,964 77	*	344,437 20
1,163	26	300	12,304 60	*	46,553 75
1,144	30	305	14,904 52	*	47,258 01
855	100	294	52,119 49	220	261,500 00
				Machines.	
1,014	4	300	2,158 00	600	8,000 00
1,067	212	303	105,819 61	*	203,741 20
				Tons.	
2,228	19	300	11,290 25	15	18,338 97
				Machines.	
2,010	9	310	6,161 56	160	41,500 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

SPECIAL MACHINERY—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,815	3	310	$2,425 50	18	$5,026 43
2,702	8	300	3,800 00	1,250	14,500 00
142	51	303	36,827 80	*	67,123 57
1,125	90	290	43,505 40	1,200	163,000 00
598	98	308	61,776 52	4,624	288,778 53
729	3	300	1,500 00	*	2,500 00
1,498	10	252	3,040 00	*	16,400 00
1,295	70	307	34,170 00	*	110,500 00
1,285	140	295	71,368 61	*	142,369 77
1,531	20	313	8,000 00	*	20,000 00
1,585	45	303	24,133 65	*	95,000 00
1,625	140	306	88,725 53	688	129,211 61
1,680	4	306	2,681 00	*	5,362 00
1,727	24	305	16,421 76	*	47,618 13
1,795	5	300	2,860 00	*	4,936 80
1,891	5	175	1,450 00	*	3,969 00
1,941	60	307	32,500 00	716	100,267 14
				Brewers' Mach.	
1,994	15	308	14,299 46	189	35,340 00
2,124	10	310	4,762 45	4 Looms. 10 Dye Mach.	10,932 98
				Machines.	
2,327	15	300	10,000 00	250	22,500 00
2,735	40	306	17,002 66	*	35,931 99
				Tons.	
1,162	5	204	15,000 00	35	4,000 00
835	44	308	24,207 04	*	65,971 66
				Machines.	
983	16	300	12,500 00	55	20,000 00
				Tons.	
1,025	3	300	1,100 00	30	3,000 00
				Machines.	
1,094	4	305	2,712 50	80	15,325 00
2,150	35	305	40,655 35	*	112,259 01
1,988	2	306	1,127 00	*	2,581 48
1,419	15	256	6,784 33	303	18,046 21
1,210	2	48	120 00	*	460 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

SPECIAL MACHINERY—Continued.

Number	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,322	8	308	$4,624 56	46	$8,912 00
124	78	310	49,045 32	3,006	159,561 91
1,494	96	306	36,516 63	*	219,297 86
1,505	75	306	49,562 22	*	218,506 69
624	180	310	67,092 47	1,167	153,720 26
585	1	115	618 49	*	1,385 41
653	26	361	15 573 00	670	72,000 00
2,834	51	303	36,827 80	*	78,000 00

GENERAL MACHINERY.

456	21	300	$12,571 01	*	$34,738 86
1,822	38	311	6,967 00	3,347	10,374 00
1,779	7	306	4,368 00	*	14,000 00
2,137	15	307	9,763 97	*	17,751 64
2,629	15	300	11,000 00	*	38,000 00
2,171	25	300	13,650 00	*	40,558 00
1,803	38	305	28,913 65	*	66,631 57
1,396	4	306	2,260 00	12	3,600 00
2,128	16	304	9,195 29	*	25,312 05
2 229	34	307	20,228 36	48½	42,322 23
2,023	100	127	23,554 44	787	50,156 25
1,677	12	308	10,762 88	78	27,953 60
1,934	10	312	5,225 00	32½	15,069 38
				1197 Machines.	
2,224	11	303	5,795 64	.....	20,073 15
				Tons.	
2,497	3	299	1,420 47	20	3,000 00
838	55	309	29,730 00	1,139	91,120 00
2,101	353	309	188,465 76	*	443,224 41
1,811	3	305	1,977 63	*	15,338 35
				Machines.	
1,971	6	312	3,120 00	340	6,500 00
				Tons.	
2,576	20	300	10,613 03	350	50,168 68
1,150	12	310	4,800 00	180	28,000 00

* Product not reported.
* None reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

GENERAL MACHINERY—Continued.

Number of return	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Machines.	
1,979	18	306	$9,790 00	20	$18,000 00
				Tons.	
1,780	15	307	6,330 04	48	11,500 00
2,136	4	305	1,059 60	8	2,069 96
2,219	3	306	1,992 50	*	4,569 75
2,436	1	200	*	3	1,200 00
1,100	40	236	16,300 00	*	35,000 00
1,383	40	306	20,186 36	255	32,977 88
1,966	18	300	8,839 00	*	12,690 00
2,371	6	291	2,451 01	27½	5,813 45
1,418	6	300	3,600 00	50	12,000 00

WOOD WORKING MACHINERY.

2,684	78	311	$39,951 93	*	$79,038 82
2,040	35	302	14,795 87	110	35,750 22
392	149	297	70,493 30	*	132,752 27
1,569	75	288	43,199 08	*	105,691 25
				Machines.	
1,345	70	244	29,040 00	325	49,266 89
1,744	3	298	1,700 00	*	3,542 00
				Tons.	
1,682	6	306	5,324 00	1½	15,000 00
1,235	22	309	8,863 20	*	31,433 24
1,360	45	278	18,236 76	*	44,214 95
2,681	8	312	3,152 15	*	7,800 00
393	76	296	28,649 71	*	74,825 26
1,640	15	307	8,105 70	80	21,350 40
1,357	14	310	5,200 00	80	14,025 00
1,373	11	263	4,638 25	74	14,641 49
1,745	10	306	6,440 00	28	12,060 68

* None reported.
* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

TEXTILE MACHINERY.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Machines.	
1,769	50	308	$17,550 00	1,000	$60,807 90
867	4	280	1,457 00	2,000	14,500 00
				Braid'g Mach.	
2,375	30	306	11,311 09	250	21,860 67
2,142	5	300	1,500 00	2 tons,	1,950 00
				Machines.	
2,094	18	300	11,543 91	27	20,231 21
1,905	7	300	5,433 24	58	89,109 68
1,845	7	85	980 00	*	1,440 00
1,612	200	300	94,981 45	*	250,233 62
1,588	93	304	60,672 00	1,550	181,251 14
1,517	18	306	8,810 00	204	31,493 76
1,958	42	305	12,664 40	300	25,000 00
1,513	12	260	5,739 19	*	15,228 68
2,223	30	295	10,356 26	*	21,142 22
2,140	40	300	20,500 00	*	160,117 31
2,089	141	300	79,850 00	*	260,000 00
1,898	30	300	17,022 69	*	33,930 40
1,828	20	306	12,431 68	*	24,808 47
1,598	37	306	24,974 18	*	75,920 13
				Tons.	
1,581	8	307	6,000 00	20	7,500 00
1,245	8	306	4,010 45	*	17,000 00
2,059	20	312	12,812 50	*	24,516 27
				Machines.	
2,673	48	303	2[illegible],911 12	949	53,687 00
2,164	10	305	4,403 81	*	10,000 00
2,099	135	300	95,359 31	985	289,736 05
2,025	47	299	27,950 00	*	101,800 00
				Tons.	
1,895	25	304	13,984 00	171	31,943 70
1,792	23	302	13,515 00	22	33,600 00
1,591	5	220	1,021 90	1	2,781 02
1,537	8	298	5,200 00	12	13,500 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

STEAM PUMPS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Pumps.	
122	75	306	$47,131 28	200	$88,535 86
1,376	48	302	9,652 00	716	14,766 45
				Pumps.	
2,468	25	300	10,092 67	10	28,289 47
591	17	300	14,350 00	*	53,590 00
1,650	3	311	2,172 20	8	5,201 93
786	120	303	87,948 05	*	202,046 47
1,032	37	307	22,043 96	*	71,108 95

DYNAMOS AND MOTORS.

				Motors.	
986	2	261	$760 00	24	$1,688 25
				Tons.	
1,816	4	300	1,888 01	10	4,290 98
1,434	25	306	7,800 00	*	24,875 00
				Machines.	
1,003	40	300	23,453 68	270	106,000 00
1,884	15	282	7,972 00	*	36,000 00
				Tons.	
2,048	12	308	5,375 00	28½	12,000 00
				Machines.	
1,641	14	287	6,929 62	30	13,521 08

IRON VESSELS AND ENGINES.

1,807	181	308	$110,045 56	*	$248,717 24
187	336	307	190,820 03	*	426,303 00
1,658	5,600	305	2,832,792 65	*	5,868,005 99

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

LOCOMOTIVES, ENGINES, &c.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
430	2	298	$750 00	*	$1,808 20
1,362	10	300	5,000 00	225	10,000 00
1,359	8	293	2,607 00	*	7,170 00
87	104	308	42,379 19	*	80,661 64
196	3,170	273	1,796,491 91	*	3,605,497 46
158	72	300	31,000 00	*	105,000 00
720	86	152	33,500 00	195	50,052 78
1,120	41	308½	24,196 43	*	63,005 35
1,364	45	304	14,883 00	596	50,000 00
1,961	60	300	34,835 09	450	54,342 84
2,065	22	309	15,600 60	38½	39,400 80
				Engines.	
2,313	26	285	10,330 90	225	29,228 84
2,424	10	275	3,923 44	107	11,184 23
2,474	18	300	7,300 00	53 Bicycles. 50	11,500 00
2,638	75	312	31,863 09	*	99,196 71
				Engines.	
1,184	6	300	4,500 00	12	6,000 00
1,060	4	300	950 00	8	1,900 00
1,882	18	306	7,909 97	*	25,331 72
				Loc.	
38	242	303	154,335 66	69	289,000 00
100	2,551	306	1,633,045 04	*	4,503,299 04
175	518	308	208,067 22	*	423,875 34
156	52	302	31,492 07	*	141,991 01
10	364	283	155,235 00	*	960,912 00
12	97	306	41,769 00	*	104,757 00
				Tons.	
783	276	308	174,729 67	3,000	400,736 63
1,244	15	300	6,000 00	100	10,020 00
1,379	12	300	4,050 00	121	10,000 00
				Engines.	
1,986	150	307	103,000 00	460	316,000 00
				Tons.	
2,116	16	355	9,282 19	319	27,804 73
2,330	35	306	17,221 30	330	35,790 31

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

LOCOMOTIVES, ENGINES, &c.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,443	10	300	$7,000 00	85	$13,000 00
2,510	37	306	20,714 33	*	122,995 90
2,718	21	307	10,878 13	*	25,136 14
988	8	308	4,808 08	*	18,587 39
1,105	30	302	11,593 97	229	21,085 14
1,962	400	304	227,273 00	980	437,500 00
59	622	303	293,563 23	*	469,968 64
195	736	293	413,079 48	*	867,817 08
161	45	300	25,985 93	*	88,578 37
76	485	305	256,998 00	*	588,143 00
154	75	300	53,000 00	*	150,000 00
563	5	310	3,190 76	*	8,312 00
1,005	18	287	8,891 85	176	23,556 84
1,310	518	308	208,067 22	*	423,875 31
				Engines.	
1,747	38	257	19,839 68	75	45,173 49
				Tons.	
2,043	10	300	2,961 14	12	6,000 00
				Engines.	
2,281	26	303	15,243 18	63	25,376 10
				Tons.	
2,356	135	305	49,697 52	1,332	149,769 57
2,450	7	308	4,446 00	101	9,342 52
2,568	10	308	5,000 00	60	12,000 00
967	61	308	38,008 57	Engines. 75 Dynamos. 10	103,424 56
				Tons.	
1,033	37	309	20,941 17	765	45,091 25
1,028	2	310	1,900 00	*	5,000 00
188	275	310	121,501 00	*	418,300 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

ENGINES AND BOILERS.

Number of return	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
152	487	300	$273,848 62	*	$929,805.93
2,381	10	300	6,186 68	250	21,779 30
872	4	296	1,520 00	41	3,212 00
153	77	300	41,000 00	*	160,000 00
160	68	299	36,726 45	*	193,105 22
2,015	140	313	97,483 19	1,870	305,166 60
1,906	6	308	3,900 00	300	40,000 00
1,544	70	300	29,680 00	520	52,000 00
1,076	93	307	45,041 45	*	91,026 92
445	75	306	33,183 07	*	55,308 03
151	201	285	121,521 11	2,520	252,546 60
2,444	35	156	9,646 20	212½	26,274 37
1,802	3	280	1,600 00	*	10,000 00
811	8	175	2,145 00	*	5,000 00
98	25	300	10,645 68	*	31,480 70
2,669	21	248	7,025 00	200	16,360 00
2,689	62	302	30,036 91	767	75,656 25
1,812	50	260	30,016 65	248	47,723 20
1,467	249	306	133,159 39	*	365,376 18
700	35	300	14,595 76	1,200	45,450 91
207	34	204	13,312 62	*	49,862 68
157	33	251	18,394 81	*	33,014 12
2,543	30	300	13,961 68	521	45,714 96
1,103	6	300	1,830 87	35	5,042 05
202	44	305	25,000 00	110	60,000 00
63	51	306	27,375 00	*	110,000 00
				Engines and boilers.	
2,216	71	300	39,041 84	120	89,283 36
				Tons.	
1,944	442	305	270,797 75	2,908	585,931 14
1,556	12	306	5,760 00	*	40,000 00
1,451	330	308	189,548 23	3,400	468,534 88
594	75	300	42,662 22	700	70,597 96
208½	117	295	51,696 05	*	165,000 00
11	333	307	154,228 00	*	473,807 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

MACHINE AND BOILER WORKS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
413	123	308	$72,985 76	1,000	$128,760 78
2,582	15	300	9,000 00	*	35,000 00
1,764	21	310	10,436 70	128	19,697 36
1,082	3	300	1,700 00	54	4,320 00
2,726	37	307	17,160 59	302	28,745 57
2,566	30	310	12,620 00	*	60,000 00
2,378	7	304	3,192 00	140	16,805 00
2,196	77	305	41,025 81	*	103,567 30
				Boilers.	
1,761	15	306	8,307 76	7,000	35,740 00
				Tons.	
1,648	15	250	3,756 25	209	11,059 82
1,308	3	130	780 00	3	997 36
1,229	25	308	11,875 00	200	27,750 00
832	70	308	40,648 53	2,010	201,245 70
146	60	300	37,940 00	*	125,763 27
573	35	300	12,472 09	*	19,200 57
1,220	17	269	4,371 96	192	17,314 03
96	55	350	28,260 00	*	68,867 00
1,213	73	311	25,925 48	*	76,088 83
2,088	15	300	9,150 00	40	40,000 00
865	4	300	1,600 00	*	3,000 00
2,634	5	300	3,000 00	32	5,000 00
2,511	37	306	16,587 20	*	62,423 70
2,262	9	300	4,368 47	110	15,262 84
1,954	7	270	3,915 00	*	9,000 00
1,742	7	355	3,750 47	*	6,659 76
1,394	14	310	4,000 00	*	12,000 00
1,272	18	306	4,800 00	*	11,750 00
1,154	3	200	890 00	32	3,500 00
793	5	308	1,883 96	95	5,500 00
39	70	280	37,021 74	400	96,535 51
1,222	18	61	1,605 01	90	4,080 17
2,550	18	297	8,000 00	451	20,000 00
2,597	70	308	35,636 15	*	80,015 30
2,720	5	100	1,000 00	8	80,015 30
2,595	4	280	2,060 00	9	3,400 00
2,401	8	307	4,582 09	81	8,360 00
2,212	8	252	4,863 42	270	30,762 80

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

MACHINE AND BOILER WORKS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,799	14	309	$6,938 28	267	$35,702 31
1,702	20	303	18,622 50	*	59,333 52
1,380	10	315	3,915 00	50	5,520 00
1,237	60	306	27,134 77	*	73,020 41
1,143	7	326	1,557 50	27	2,807 50
725	30	308	12,200 00	663	46,400 00
552	60	290	19,674 31	1,224	72,221 22
625	50	308	36,148 00	1,040	80,366 09

CARS AND CAR WHEELS.

				Wheels.	
177	43	308	$17,909 00	3,208	$151,353 00
				Tons.	
869	4	206	1,150 00	67	3,356 65
				Cars.	
1,088	23	113	13,648 30	36	51,178 00
180	324	99	47,980 89	*	246,101 17
6	150	275	57,835 00	*	190,508 00
197	2,217	305	1,261,919 08	*	3,133,200 84
1,597	790	305	414,498 00	1,070 Trucks. 2,250 Wheels.	1,405,020 00
2,011	11	297	9,003 68	6,185	56,339 90
				Tons.	
2,752	25	300	11,519 62	1,500	45,863 07
				Cars.	
959	30	279	14,673 95	27	21,800 00
24	112	300	35,852 94	*	164,183 51
				Tons.	
65	40	299	16,101 26	1,800	81,300 00
105	174	305	85,560 91	1,109	285,383 74
2,416	45	300	23,979 28	4,500	125,000 00
1,516	360	280	144,000 00	15,598	840,381 84
940	44	50	16,184 65	*	52,040 56
86	51	308	17,964 09	608	44,438 93
185	30	279	14,673 95	75	21,800 00
172	110	305	39,889 77	*	241,379 41

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

RAILWAY SPECIALTIES.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Headlights, Headlight Reflectors, &c.	
1,766	4	308	$2,837 00	300	$7,169 50
2,584	112	298	52,078 54	*	122,623 86
614	2	156	850 00	*	2,517 40
739	14	305	9,446 05	*	31,039 81
				Tons.	
1,133	200	291	40,880 00	625	115,000 00
				Gross.	
607	11	300	6,700 00	18,000	14,000 00
				Tons.	
2,147	67	300	35,672 27	75	85,942 08
				Clamps.	
1,156	2	165	575 00	1,429	2,809 15
				Tons.	
448	40	250	149,356 00	7,949	477,627 64

FROGS, SWITCHES, &c.

				Tons	
508	500	275	$285,000 00	4,700	$575,000 00
206	625	291	400,048 52	44,127	1,367,235 57
1,800	26	306	14,196 00	*	48,976 42
768	500	275	285,000 00	4,700	575,000 00
2,651	200	300	93,911 88	*	298,883 24
954	50	308	29,993 17	930	70,119 51

AIR BRAKES.

				Tons.	
512	1,138	304½	$887,680 66	30,000	$5,161,037 73
				Air-brake equipments.	
621	10	150	4,500 00	200	25,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

CAR SPRINGS.

Number of return	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,030	91	303	$60,178 72	4,534	$300,149 69
2,098	110	306	66,038 20	4,741	365,592 19
26	107	277	67,556 60	4,662	496,984 28
805	5	102	1,086 58	335	15,069 92

ELEVATORS, &c.

				Tons.	
1,695	4	307	$1,975 00	*	$6,078 34
1,946	225	308	146,039 72	5,000	485,000 00
1,159	13	306	6,400 00	*	38,000 00
1,083	40	307	17,000 00	*	30,000 00
1,912	12	306	8,803 28	*	22,264 07
1,659	20	308	12,008 00	*	18,945 00
				Tons.	
665	40	305	31,447 48	148	74,500 00
				Elevators.	
1,510	100	306	39,964 17	400	75,830 36

METAL AD METALLIC GOODS.

				Tons.	
405	25	225	$10,520 72	1,675	$33,954 85
2,364	6	295	4,050 00	*	5,468 15
2,353	140	250	69,000 00	*	225,000 00
578	6	291	3,105 60	591	92,047 63
1,181	1	56	112 00	1½	625 00
2,234	2	305	450 00	2	1,200 00
2,765	8	255	5,302 00	55	10,718 81
2,186	2	*	100 00	15	4,000 00
1,924	*	*	3,366 00	*	11,225 00
1,877	2	300	800 00	2	2,250 00
1,631	15	303	10,100 90	*	19,695 00
2,029	10	312	3,099 60	100	11,229 36
1,791	5	306	2,618 20	15	9,135 80
1,957	45	306	25,002 83	*	64,776 58
574	14	275	4,198 75	*	9,568 75

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

METAL AND METALLIC GOODS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
936	5	100	$400 00	20	$1,000 00
965	4	310	3,000 00	*	12,000 00
2,476	2	263	1,315 00	5	2,782 55
2,146	3	300	2,280 00	4	4,500 00
1,228	14	308	5,595 65	*	86,867 90
				Poles.	
711	3	121	950 00	3,000	2,950 00
				Tons.	
1,542	8	305	3,500 00	8	11,000 00
1,112	2	45	112 50	5	1,025 00
2,278	7	283	4,142 00	53¼	12,449 00
1,586	4	300	2,496 00	*	5,000 00
407	2	300	1,200 00	*	7,072 00
941	20	260	4,000 00	*	13,848 00
				Hods.	
1,092	1	312	127 25	1,296	1,231 27
				Tons.	
2,218	6	300	3,250 00	200	9,000 00
2,092	5	306	2,400 00	10	8,472 93
1,936	8	270	4,400 85	*	8,900 78
763	15	206	7,599 50	3½	17,675 12
549	10	300	7,617 58	3	12,000 00

PIPES AND TUBING.

				Tons.	
453	3	306	$1,587 14	50	$5,001 88
78	310	243	121,002 33	18,379	881,110 30
475	270	260	105,763 00	21,800	895,619 00
1,179	250	305	68,723 25	3,710	247,152 56
1,305	20	100	3,060 52	31	9,923 81
1,978	20	306	9,500 00	10	60,000 00
2,351	30	300	12,929 95	347	22,881 36
2,428	5	306	2,909 70	42	22,643 81
927	42	309	22,957 53	1,157	143,099 01
2,365	340	305	99,539 49	16,600	360,000 00
49	850	305	400,993 95	35,000	1,200,529 35
454	965	260	380,684 30	22,315	1,031,795 56
938	904	250	349,737 71	42,785	1,856,899 67

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

PIPES AND TUBING—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,449	700	306	$261,416 16	30,224	$1,268,458 91
691	900	300	472,000 00	79,157	3,000,000 00
481	5,000	300	1,310,125 56	181,543	8,716,750 37
2,825	225	305	103,614 44	6,988	369,237 47
191	238	294	98,825 28	18,212	300,498 00
170	56	251	25,262 20	3,224	145,210 88
1,261	325	307	115,520 00	26,080	422,556 13
1,524	40	270	12,209 62	3,599	136,759 73
2,160	24	308	17,067 48	2,177	174,189 84
1,832	15	308	9,600 00	1,000	50,000 00

NAILS, SPIKES, &c.

				Tons.	
				Bar iron and nails.	
2,399	90	230	$25,848 97	3,165	$80,232 63
				Muck bar.	
				300	
				Nails.	
171	139	249	46,006 24	522	213,007 05
				Nails, etc.	
167	641	250	227,385 82	33,138	992,000 00
				Nail plate.	
				1,000	
				Puddle bars.	
168	400	230	159,182 58	265,440	
				Nails.	
				10,395	659,102 00
81	141	217	32,274 28	3,687	123,922 61
				Spikes.	
1,252	6	160	1,489 48	430	15,211 65
				Muck bar and nails.	
2,818	40	120	5,800 00	600	36,000 00
				Nails.	
				2,132	
46	320	252	104,411 90	Bar iron.	
				7,259	257,946 85
				Nails.	
182	90	130	28,877 50	2,144	79,568 48

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

NAILS AND SPIKES—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Spikes.	
736	41	303	$22,025 80	3,851	$164,811 55
				Bar iron and spikes.	
1,672	45	304	21,247 47	2,135	61,212 55
				Nails.	
149	100	90	15,335 90	1,499	58,932 00
74	375	183	84,683 42	4,806	207,518 54
				Bar iron and railroad spikes.	
178	55	250	27,080 01	2,745	88,840 00

WIRE RODS AND NAILS.

				Tons.	
505	21	309	$15,338 42	68½	$44,005 54
2,026	112	200	34,013 03	4 000	198,276 67
469	460	243	215,195 17	45,822	1,114,850 75
685	850	306	434,187 76	63,552	2,301,068 62
564	702	308	390,062 70	59,708	2,247,175 78
1,940	95	300	45,000 00	900	475,000 00
1,999	20	300	12,496 03	300	34,538 60
2,275	75	275	43,722 17	3,500	208,752 70
1,233	575	246	284,638 19	41,262	1,549,446 32
2,676	38	300	15,536 57	2,508	92,421 39
1,950	14	300	7,203 48	798	38,084 69
2,267	186	236	147,134 26	59,627½	1,320,250 10
82	775	240	337,542 19	74,496	1,860,015 46

TACKS, &c.

				Tons.	
557	62	220	$6,327 00	162	$18,720 00
2,066	10	260	2,238 50	62	5,532 00
2,602	20	180	8,163 55	171	18,000 00
208	27	280	12,748 39	631	81,159 91
2 601	20	150	7,794 00	350	35,000 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

STOVES, RANGES, &c.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
411	56	256	$37,211 50	700	$80,000 00
417	139	257	66,516 00	2,135	128,000 00
526	90	288	55,438 25	1,470	150,213 58
804	49	237	25,543 00	702	55,000 00
1,070	12	255	7,483 86	402	16,104 91
1,767	25	197	9,183 85	441	17,680 00
2,134	25	305	12,782 30	438	106,470 09
2,285	33	218	17,587 84	545	35,793 51
2,437	80	275	41,850 00	952	85,500 00
2,624	138	192	70,264 95	2,292	183,392 76
1,011	50	270	22,987 84	800	47,684 35
1,065	5	250	1,800 00	82	7,000 00
30	100	190	32,802 91	8,864	94,992 48
94	55	225	24,296 50	529	55,677 02
106	174	295	104,315 26	2,552	204,203 27
2,763	36	240	20,258 20	600	37,072 85
463	22	176	10,575 50	353	28,240 00
537	105	280	60,949 49	1,500	119,638 00
851	75	250	36,260 87	1,033	72,334 64
1,299	69	230	32,795 12	1,150	74,187 96
1,892	125	167	56,409 48	1,854	130,156 82
2,170	219	282	117,826 96	2,949	311,638 22
2,286	5	104	1,000 00	40	1,500 00
2,541	70	280	51,377 89	2,000	98,841 83
2,625	100	280	59,935 38	1,147½	140,409 18
1,008	5	310	3,130 00	100	7,000 00
2,405	3	220	1,650 00	43	3,850 00
31	180	177	61,108 37	1,594	180,206 71
174	198	265	80,598 39	1,627½	155,241 23
415	40	146	16,243 14	312½	31,729 74
507	32	288	14,834 31	475	25,202 41
606	70	280	51,377 89	2,000	98,841 83
853	100	300	37,323 14	1,300	72,492 96
1,657	276	258	171,991 26	5,120	333,658 99
1,972	105	221	59,784 90	1,376½	110,120 00
2,268	30	189	17,456 22	400	31,077 58
2,341	6	300	2,700 00	30	12,000 00
2,617	75	270	28,476 28	1,257	90,000 00

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

STOVES, RANGES, &c.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,011	50	270	$22,987 84	800	$47,684 35
2,627	85	250	42,233 62	917	81,557 28
7	96	176	48,269 93	1,010	112,945 00
73	75	100	19,685 93	500	36,500 00
164	325	238	167,542 68	5,650	508,474 00

HEATING APPARATUS.

				Tons.	
2,007	30	197	$13,119 50	312	$30,895 00
2,425	3	312	1,200 00	*	2,000 00
761	12	303	7,416 00	10	18,000 00
2,579	22	304	11,127 34	241	20,000 00
2,004	25	250	10,134 06	270	27,283 18
1,620	12	310	5,820 34	Tanks. 44 Boilers. 4,424	25,918 33
1,393	9	320	3,300 00	*	8,500 00
				Tons.	
1,354	100	280	50,853 69	648	139,963 57
				Heaters.	
2,151	2	131	690 00	10	2,600 00
				Tons.	
982	210	290	96,877 87	2,225	252,283 51
198	85	280	30,560 12	1,800	103,955 00
2,655	21	260	8,098 07	300	20,863 67
2,432	2	365	600 00	20	4,000 00
923	65	155	14,798 63	*	41,911 66
2,578	12	306	6,600 00	55	20,000 00
1,778	62	279	36,819 73	613	97,899 00
1,392	3	300	500 00	*	2,500 00
1,145	25	305	12,850 00	Tanks. 15 Boilers. 100	23,900 00
				Tons.	
1,955	6	240	3,600 00	30	9,200 00
545	6	250	5,000 00	*	5,000 00
1,554	20	300	8,100 00	*	32,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

HEATING APPARATUS—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
389	82	310	$37,187 30	*	$82,943 98
2,572	4	312	2,300 00	60	6,000 00
654	43	307	20,110 50	*	82,500 00
2,656	32	306	16.000 00	260	60,000 00
2,324	20	250	7,435 58	270	16,242 27
				Boilers.	
1,775	4	310	2,756 00	2,439	9,031 00
1,422	3	306	1,860 00	*	3,576 00
2,594	40	250	15,007 45	800	40,000 00
1,854	63	306	39,671 62	*	156,105 14
				Heaters.	
771	52	297	11,229 16	10	37,639 13
				Tons.	
1,704	2	280	760 00	4	3,000 00
1,926	35	309	18,346 29	212¼	33,962 96

HORSESHOE NAILS.

				Tons.	
2,283	150	265	$71,568 90	1,274	$206,945 91

AXLES.

				Sets.	
432	250	257	$100,380 00	166,373	$288,622 54
130	18	280	8,887 38	4,060	19,697 00
				Dozens.	
969	25	240	12,600 00	4,721	26,346 00
				Tons.	
1,476	5	298	2,217 41	101	10,000 00
514	15	274	8,887 38	250	21.800 00
				Sets.	
1,089	85	308	41,385 22	62,429	100,021. 95
				Tons.	
1.507	35	306	18,425 30	459	65,619 25

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

AXLES—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
640	650	288	$295,607 25	12,388	$770,975 95
944	38	306	14,429 62	*	56,100 00
				Sets.	
1,108	15	265	3,856 64	6,026	10,408 99
				Tons.	
1,326	300	302	173,289 51	6,588	483,368 70

SAFES AND VAULTS.

				Tons.	
538	58	308	$30,255 00	998	$103,840 44
				Safes.	
1,784	18	307	10,060 16	457	27,399 70
1,506	105	296	43,231 65	*	101,847 68
1,794	20	300	10,468 25	*	21,226 65
				Tons.	
1,667	50	308	30,600 00	400	100,000 00

BOLTS AND NUTS.

				Tons.	
1,785	31	286	$12,000 00	180	$33,365 00
414	35	260	15,644 69	2,030	90,205 18
641	25	300	11,198 78	1,500	57,032 82
1,819	605	275	237,087 38	12,525	741,612 00
				Bolts.	
2,145	4	309	2,200 00	58,690	6,525 45
				Tons.	
2,352	150	285	55,000 00	4,500	220,000 00
2,019	10	306	3,000 00	*	10,000 00
663	50	250	18,454 80	2,185	106,348 90
1,915	20	302	10,200 00	640	38,400 00
23	148	280	52,730 54	4,603	112,499 28
2,357	50	250	28,000 00	*	50,000 04
1,391	45	305	12,678 15	2,234	68 874 54
704	45	303	30,775 00	3,000	91,700 00
				Bolts.	
2,118	55	243	17,239 55	6,866,450	56,767 10
				Tons.	
1	490	295	204,472 35	26,376	994,967 42
1 992	2	308	1,285 33	1	2,349 68

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

HARDWARE SPECIALTIES.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
409	225	307	$82,167 60	5,230	$254,919 14
2,016	165	300	82,304 68	1,572	165,000 60
1,688	7	309	3,923 00	100	8,944 00
				Augers.	
476	2	120	648 50	516	1,452 88
546	235	215	44,702 92	*	92,646 50
781	20	200	7,500 00	*	16,628 00
				Tons.	
1,101	47	240	17,505 90	482	39,393 90
1,572	30	306	15,090 50	200	50,696 62
8	915	258	341,624 00	3,466	527,681 00
1,593	22	300	11,950 55	75	24,964 82
1,679	325	295	181,396 34	2,494	321,994 46
2,329	66	306	16,441 43	*	37,545 45
1,024	7	300	350 00	13	1,728 69
1,870	9	305	5,666 38	*	9,700 00
2,062	60	250	21,703 07	260	41,519 09
436	220	275	53,716 44	5,400	326,311 47
497	2	300	650 00	Buggies. 20 Gears. 60	2,100 00
				Tons.	
638	45	255	30,218 23	800	75,308 43
802	2	300	1,150 00	18	2,300 00
1,368	10	304	3,841 19	300	38,420 00
2	400	260	114,550 31	*	337,850 00
4	103	227	37,419 36	955	66,158 75
1,600	4	313	1,900 00	35	22,000 00
1,699	561	303	279,415 26	3,300	816,481 86
2,662	60	275	22,115 94	526	62,831 76
1,021	25	215	6,719 30	250	15,000 00
1,238	32	297	10,395 95	400	25,000 00
2,344	30	150	4,000 00	175	11,375 00
1,276	2	310	840 00	*	3,500 00
438	51	220	22,207 21	140	37,892 96

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

HARDWARE SPECIALTIES—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
515	6	300	$2,600 00	Saw turners. 150 Tube examiners. 250 Boring machines. 600	$9,000 00
				Tons.	
1,015	22	307	7,318 75	77	62,958 31
1,533	7	309	4,322 08	*	18,605 13
95	168	295	95,818 29	*	223,972 06
1,579	30	270	9,697 63	100	40,872 31
1,649	15	294	4,642 00	4	9,874 00
2,021	14	306	9,934 17	50½	32,424 99
1,158	65	287	24,700 00	260	51,257 60
1,027	2	306	800 00	50	1,750 00

OIL WELL SUPPLIES, TOOLS, &c.

				Feet.	
862	4	300	$2,000 00	*	$10,000 00
977	8	304	3,648 00	1,137,906	34,452 70
				Tons.	
1,441	26	306	15,300 00	700	50,920 26
1,443	28	312	14,000 00	400	40,000 00
1,445	15	310	9,347 00	100	22,985 00
1,447	15	309	9,100 00	75	15,000 00
				Feet of rods.	
1,454	7	300	3,150 00	90,000	24,000 00
				Feet.	
1,455	6	188	1,466 00	396,134	11,884 02
1,458	7	300	3,150 00	*	11,881 35
				Tons.	
1,460	14	321	9,300 00	240	23,583 99
1,464	12	312	5,304 60	366	15,615 80
418	23	300	11,280 00	331	111,924 31
494	7	300	6,783 43	*	24,121 67

* Product not reported.

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GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

OIL WELL SUPPLIES, TOOLS, &c.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,277	16	194	$5,878 00	*	$10,000 00
2,280	4	180	1,500 00	8	3,000 00
				Machines.	
2,290½	27	310	15,801 65	45	62,404 48
2,441	3	200	1,200 00	*	2,500 00
2,446	21	305	17,021 10	*	70,110 29
				Tons.	
2,447	22	306	20,301 16	323	101,801 06
2,448	8	310	5,658 86	*	19,768 87
				Feet of rods.	
2,449	3	313	2,347 50	343,000	13,720 00
2,451	12	230	7,749 92	*	23,000 00
				Tons.	
2,458	10	308	7,796 76	117	18,000 00
2,469½	4	281	1,562 45	10	6,540 99
2,723	15	310	11,759 63	240½	36,354 95
492	12	308	10,861 00	*	26,625 00
2,515	6	306	4,680 00	*	32,500 00
2,516	17	306	14,272 11	*	61,544 15
2,517	10	307	7,433 00	*	7,000 00
2,520	11	315	9,600 00	*	18,000 00
2,522	10	270	6,622 35	93	28,478 20
2,523	2	300	1,430 00	200	10,000 00
				Feet.	
2,538	7	225	3,000 00	800,000	40,000 00
2,713	4	310	3,592 90	726,015	31,763 16
				Tons.	
2,724	34	305	1,780 45	936	46,080 90
2,727	4	309	2,114 19	10¼	5,815 93
200	232	308	118 568 62	*	325,452 37
544	20	300	19,520 00	*	42,500 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

AXES AND EDGE TOOLS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Dozens.	
2,395	3	125	$245 00	175	$1,675 99
2,738	15	280	7,000 00	1,000	15,000 00
				Tons.	
1,580	5	306	1,287 50	5½	2,890 60
1,122	7	275	2,493 50	45	11,451 89
				Dozens.	
1,738	37	300	14,950 55	12,004	52,412 08
				Tons.	
950	43	205	17,810 00	115	46,893 20
2,562	90	285	37,528 50	342	78,720 00
2,609	50	200	2,318 19	44	90,269 09
1,468	22	282	10,974 35	95	24,000 00
104	267	248	106,800 78	*	306,673 80
				Planes.	
1,750	20	300	4,500 00	35,000	15,000 00
				Dozens.	
2,380	20	126	3,188 00	2,520	5,482 53
2,560	636	300	217,098 00	102,300	574,000 00
1,355	1	200	400 00	*	1,597 81
1,543	5	250	3,300 60	*	4,900 00
1,793	10	365	4,924 00	*	6,000 00

SAWS.

				Tons.	
1,352	8	300	$3,624 98	4½	$6,718 39
1,358	2	276	1,281 70	*	3,973 11
				Saws.	
1,968	3	306	1,500 00	2,400	2,800 00
109	1,000	296	493,266 72	*	1,577,374 90
				Tons.	
1,918	9	300	4,500 00	3	10,000 00
2,265	69	285	43,326 78	*	94,607 16

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

FILES.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Files.	
586	3	150	$1,312 86	10,949	$2,625 73
				Dozens.	
1,500	2	306	1,000 00	670	3,000 00
				Tons.	
2,125	65	280	26,857 00	275	41,000 47
110	200	299	98,445 46	*	244,000 00
1,548	325	298	126,016 37	1,349	400,000 00
1,155	3	306	500 00	6	1,200 00
				Files, doz.	
1,927	15	210	8,000 00	15,000	54,375 00

AUGERS.

				Augers and bits.	
960	12	200	$5,107 14	*	$8,082 10
2,045	25	240	11,470 88	240,000	23,464 44
2,583	2	150	429 37	*	1,200 00

MINING SPECIALTIES.

				Tons.	
1,321	3	307	$1,842 00	52	$5,526 00
1,335	3	305	1,510 00	78	6,190 00
2,831	2	163	815 00	6¼	1,780 00
424	5	297	2,801 98	51	10,532 07
692	76	306	33,467 50	*	109,249 44
				Dozens.	
1,073	15	240	8,438 96	1,895	17,565 71
				Tons.	
1,289	9	302	3,975 90	50	8,400 00
1,303	7	287	4 270 53	*	7,539 62
2,830	2	95	475 00	7¾	1,414 36
2,833	1	112	336 00	4½	688 54
1,304	3	302	1,510 00	3	330 00
1,302	2	285	1,500 00	24	6,000 00
2,829	2	75	450 00	4 1-5	766 50
1,291	3	220	720 00	12	3,000 00
827	1	200	150 00	6	2,000 00
				Sets.	
2,260	4	250	2,250 00	800	4,500 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

PLUMBING GOODS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
457	450	300	$224,265 45	5,060	$650,000 00
2,592	106	300	49,708 22	321	95,357 21
755	36	306	20,037 35	*	33,521 22
1,651	35	300	28,297 37	*	105,502 26
1,760	2	306	1,000 00	50	4,000 00
1,010	5	300	3,600 00	*	21,200 00
1,241	65	187	19,893 11	*	50,947 53
530	5	306	3,700 00	*	7,255 88
159	790	290	365,822 21	*	860,400 00
695	24	302	10,928 67	*	33,798 46
1,709	41	307	23,907 30	292	68,843 92
1,964	40	306	12,296 08	31	25,000 00
2,745	450	304	178,884 59	*	410,965 71
1,369	30	300	13,382 75	115	21,301 47
465	90	305	36,656 30	2 555	73,000 00
1,561	106	300	49,708 22	321	95,357 61
1,723	30	300	15,000 00	*	80,000 00
1,123	15	190	2,802 37	*	8,000 00
2,200	17	306	9,565 23	*	41,850 31

SCIENTIFIC INSTRUMENTS, TOOLS, &c.

831	8	200	$2,500 00	25	$7,000 00
2,233	15	300	9,800 00	*	14,000 00
2,031	35	305	14,000 00	*	38,960 00
2,049	79	300	34,000 00	*	60,000 00
1,983	1	260	350 00	*	940 00
1,574	3	305	1,421 30	*	3,852 19
1,240	1	306	*	*	1,600 00
1,820	45	257	22,638 45	*	66,450 72
1,502	2	312	521 00	2	1,800 00
2,207	356	308	216,988 00	*	463,051 54
1,894	33	309	18,020 00	*	31,680 00
2,013	7	306	3,376 00	½	5,928 20
1,788	17	307	8 203 03	*	14,910 78
1,567	5	306	2,800 00	*	4,000 00
1,157	7	306	3,380 00	¾	8,169 00
2,573	16	309	5,100 00	*	18,900 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

SCIENTIFIC INSTRUMENTS, TOOLS, &C.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,120	5	302	$2,400 00	*	$5,400 00
1,736	15	300	6,781 00	*	15,500 00
				Instruments.	
1,871	6	310	2,600 00	35	8,750 00
1,519	22	304	16,873 42	*	27,768 81
1,595	1	78	225 00	6	600 00

SHOVELS AND SPADES.

				Dozens.	
620	125	312	$53,460 00	51,320	$172,500 00
1,341	50	263	21,607 75	14,758½	60,597 31
				Tons.	
2,079	140	250	57,680 00	1,800	227,000 00
				Dozens.	
732	32	278	10,838 78	8,142	34,692 75
1,757	73	305	42,325 45	*	136,720 87
2,078	30	220	10,456 89	8,331	28,929 42
829	3	252	558 00	849	2,561 00
2,009	77	300	41,192 40	*	133,818 77
2,270	150	295	59,564 71	53,453	214,136 42
2,712	100	300	51,408 06	33,515	197,995 41

TOOLS NOT OTHERWISE SPECIFIED.

1,563	1	225	$153 08	*	$306 08
1,530	8	305	3,517 62	*	9,743 91
1,062	19	296	7,975 00	*	16,170 00
1,842	33	307	20,879 39	*	49,293 96
2,413	2	200	500 00	*	2,900 00
1,813	7	255	2,700 00	*	11,000 00
2,213	4	300	1,500 00	*	3,000 00
2,610	30	294	13,936 17	*	36,138 00
1,776	20	283	8,995 54	*	21,059 58
1,628	50	297	25,000 00	*	70,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

TOOLS NOT OTHERWISE SPECIFIED—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
2,055	15	313	$5,980 00	*	$3,000 00
931	10	270	5,250 00	*	26,191 02
647	6	306	3,067 78	*	10,352 32
1,938	3	230	1,162 88	*	2,415 28
1,829	3	300	2,200 00	*	3,600 00
108	489	305	261,432 90	*	461,002 39
1,967	42	308	24,327 37	*	67,739 78
1,851	4	270	2,800 00	*	7,500 00
874	4	276	1,656 00	*	3,000 00
2,104	70	260	40,582 76	*	120,000 00
628	100	290	51,000 00	*	137,000 00
1,019	65	215	15,543 10	*	61,168 81
2,054	17	301	10,435 37	*	14,364 07
898	30	306	13,770 00	*	60,000 00
1,328	5	295	2,709 95	*	6,335 98
				Tons.	
1,939	42	300	22,500 00	125	70,000 00
890	9	250	2,931 25	*	4,812 60
1,662	2	208	940 00	*	2,149 85
1,997	60	306	30,560 94	*	83,011 54
2,307	1	300	225 00	*	450 00
1,694	25	303	11,675 73	*	29,755 79
				Dozens.	
1,020	92	295	42,782 50	35,480	146,324 00
				Tons.	
1,109	2	300	*	2½	500 00
775	67	236	37,217 87	694	129,589 15
1,589	70	257	34,038 08	*	100,000 00
597	5	312	2,000 00	*	5,000 00

LOCKS.

592	10	212	$997 62	*	$12,004 70
1,685	1	75	120 00	*	669 50
1,160	2	120	320 00	*	609 00
592	10	212	1,000 00	*	12,000 00
2,220	35	306	16,287 30	*	44,433 34
2,081	5	225	2,364 00	*	4,300 00
1,131	80	303	25,090 00	*	67,550 00
2,688	7	221	2,589 40	*	4,821 86

* Nothing reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

AGRICULTURAL IMPLEMENTS.

Number of return.	Average number of persons persons	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
396	520	310	$184,506 88	*	$528,929 93
2,677	17	311	4,000 00	*	18,000 00
2,640	11	308	3,906 12	*	8,876 98
2,613	26	297	12,673 79	*	46,143 21
2,298	3	234	800 00	52	4,090 00
887	5	250	1,920 00	*	4,466 67
1,170	40	300	12,200 00	*	38,914 64
391	15	300	6,902 25	*	25,125 00
2,423	5	278	1,387 04	38	2,188 76
2,743	6	200	1,500 00	50	4,500 00
2,587	50	300	27,125 97	*	54,000 00
2,667	8	210	1,128 69	*	2,400 00
1,490	60	306	23,500 00	1,000	35,962 1.
2,678½	94	305	37,971 59	*	121,372 10
2,347	2	310	1,057 67	*	4,950 40
1,435	15	225	3,715 00	75	13,000 00
2,733	1	300	400 00	25	1,333 00
829	7	306	2,565 00	*	4,500 00
1,167	70	300	23,110 40	2,200	87,121 58
2,670	1	300	450 00	*	1,500 00
1,175	1	225	*	2	500 00

PLOWS, CULTIVATORS, &c.

				Tons.	
603	100	300	$55,000 00	3,000	$100,000 00
2,697	2	110	400 00	11	550 00
1,039	5	180	1,100 00	40	2,400 00
1,288	3	260	1,060 00	80	1,875 00
2,496	1	164	241 40	14	910 00
				Plows, etc.	
1,339	1	250	400 00	75	1,000 00
				Tons.	
818	6	275	3,000 00	50	8,000 00
1,399	8	269	2,600 00	*	4,000 00
873	2	275	900 00	50	2,000 00
1,436	2	300	450 00	30	1,000 00
918	5	290	1,812 00	45	9,500 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

PLOWS, CULTIVATORS, &c.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,414	4	300	$1,800 00	55	$4,500 00
2,506	3	100	350 00	15	925 50
2,698	3	240	750 00	50	3,000 00
1,115	1	234	224 00	10	400 00
2,477	2	153	90 00	5	324 00
2,486	16	225	3,744 00	144	10,080 00
1,269	3	280	1,050 00	40	2,500 00
1,495	1	211	211 00	*	850 00
1,404	2	175	125 00	25	700 00
1,189	10	150	2,625 00	*	6,000 00
				Plows.	
1,601	2	150	150 00	50	750 00
				Tons.	
1,069	5	196	1,910 73	187	4,908 75
2,680	2	175	445 00	30	900 00
1,056	2	234	600 00	42	2,520 00
2,479	2	250	425 00	44	2,540 00
2,470	2	96	150 00	12	750 00
1,420	1	200	400 00	20	1,200 00
2,310	30	308	12,748 56	483	33,488 76
1,260	13	300	5,500 00	156	15,600 00
2,639	4	250	950 00	30	1,800 00
				Plows.	
1,225	4	200	1,100 00	250	3,500 00

CHAINS, &c.

				Tons.	
462	30	300	$11,993 70	300	$20,324 40
501	60	310	31,868 99	1,100	64,361 63
907	37	300	11,843 00	625	37,700 00
1,499	90	257	21,168 88	1,100	63,185 85
2,312	3	300	900 00	18	2,200 00
627	50	305	25,284 06	600	89,313 76
1,474	2	300	700 00	8	1,500 00
1,587	65	288	25,701 80	810	93,201 74
61	81	237	28,400 00	1,325	89,700 00
1,492	7	200	1,540 00	*	2,683 97

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

SCALES, &c.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,071	18	308	$9,038 79	*	$35,000 00
2,131	25	300	8,090 50	200	25,090 95
815	30	306	16,000 00	*	55,000 00
1,863	10	306	5,000 00	15	10,000 00
2,178	82	292	48,750 00	*	162,540 27
1,560	4	280	1,120 00	*	6,795 00

GAS AND WATER METERS.

				Meters.	
705	35	300	$45,635 86	4,240	$66,551 80
				Gas meters.	
1,756	165	300	85,924 67	40,000	256,000 00
1,523	120	303	64,953 86	*	173,864 30
1,789	100	306	51,469 50	17,750	150,096 85
				Dozens.	
1,693	8	300	3,450 00	3,600	12,350 00
				Meters.	
2,628	12	312	5,008 04	2,121	23,628 04

GAS, ELECTRICAL FIXTURES, &c.

				Tons.	
1,741	30	300	$12,000 00	*	$38,500 00
2,166	9	275	3,365 35	*	12,577 68
2,033	20	305	9,600 00	5	30,000 00
2,115	130	290	50,400 00	*	155,000 00
1,733	60	305	32,158 61	*	68,606 67
				Fixtures.	
1,824	17	305	6,000 00	6,680	22,000 00
1,675	67	305	45,413 72	*	96,596 22
1,691	61	307	42,400 36	*	205,000 00
2,105	3	260	1,312 49	*	2,350 40
				Gross.	
2,051	3	130	780 00	210	10,800 00
1,885	31	291	16,137 54	*	44,103 75

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

GAS, ELECTRICAL FIXTURES, &c.—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
2,227	4	290	$1,546 72	*	$7,400 00
1,601	50	160	29,993 58	*	36,124 32
1,664	75	310	24,208 99	*	51,425 00
1,989	35	306	10,350 00	*	14,944 00
2,169	159	274	83,221 71	*	155,055 97
1,866	30	305	14,456 26	*	46,404 64
1,740	63	299	31,000 00	*	65,000 00
1,653	20	310	10,900 00	2	48,950 00

WAGON AND CARRIAGE SPRINGS.

				Tons.	
561	31	264	$12,579 95	493	$36,002 76
1,835	15	275	8,855 50	236	24,565 75
2,080	125	292	59,451 76	1,917	153,976 22
894	3	150	1,858 00	9	4,000 00
1,925	36	261	25,864 92	486	63,226 43

BICYCLES.

				Wheels.	
809	15	75	$2,678 54	300	$15,600 00
				Machines.	
1,629	3	180	630 00	100	5,500 00
				Wheels.	
2,616	24	360	9,404 00	1,006	30,000 00
981	200	305	103,292 44	*	201,182 00
				Tons.	
1,928	36	300	14,000 00	180	59,000 00
2,618	5	121	1,008 00	1,000	1,250 00
				Wheels.	
1,365	8	240	3,322 40	200	8,000 00
2,379	150	275	63,600 00	7,000	300,000 00

* Product not reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

WIRE GOODS AND ORNAMENTAL IRON WORK.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
425	50	300	$9,303 74	*	$40,000 00
1,762	23	308	9,367 21	7¼	23,407 14
1,370	20	267½	14,180 16	471	105,017 64
1,948	5	125	690 00	8	3,500 00
1,496	85	209	20,595 19	843¾	197,568 00
1,315	135	305	68,171 29	3,404½	637,872 49
2,046	15	311	7,350 75	*	23,782 45
1,668	100	300	36,000 00	127	165,000 00
1,839	3	125	945 00	*	3,500 00
2,022	30	306	10,884 99	*	17,281 74
2,199	5	305	2,117 07	*	3,471 79
1,077	3	252	1,025 64	10	3,600 00
1,198	10	276	2,625 57	40	9,000 00
1,037	6	306	1,250 00	100	3,000 00
451	6	300	3,517 95	*	7,552 49
2,008	34	300	20,459 00	686	82,000 00
1,398	2	306	858 25	*	2,290 69
				Segments.	
1,325	7	300	3,600 00	5,000	6,000 00
				Tons.	
1,312	8	300	3,600 00	50	7,500 00
1,552	2	90	*	1	500 00
1,703	2	300	1,200 00	10	2,500 00
1,858	8	310	4,560 00	*	7,100 00
2,074	2	300	1,300 00	*	2,500 00
2,534	3	300	350 00	12	2,600 00
1,042	1	130	391 25	Gates. 35 Rods, fence. 642	637 25
				Tons.	
1,180	31	308	21,731 17	461½	69,146 44
				Screens.	
442	1	30	600 00	6	750 00
668	15	308	8,500 00	*	40,000 00
				Tons.	
1,381	4	205	800 00	45	4,500 00
1,400	6	216	2,203 20	125	9,970 00

* Nothing reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

WIRE GOODS AND ORNAMENTAL IRON WORK—Continued.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Tons.	
1,318	4	208	$2,072 00	*	$4,751 00
1,536	4	360	1,800 00	25	4,000 00
1,565	2	260	1,516 67	14½	3,494 40
1,770	22	305	11,000 00	1,500	75,000 00
1,963	6	306	3,650 00	*	10,500 00
2,156	8	285	2,861 90	50	10,700 00
				Square feet.	
1,086	3	216	1,296 00	32,400	5,184 00
				Tons.	
1,192	10	245	3,950 00	35	10,950 00
1,932	33	306	17,029 09	*	45,861 46

SPIRAL SPRINGS.

427	4	366	$2,072 00	10	$4,000 00
909	1	30	45 00	*	225 00
				Springs.	
1,330	10	275	3,437 50	5,500	16,500 00
				Tons.	
2,204	20	295	9,596 27	45	31,191 08
995	3	60	180 00	7½	4,500 00
1,047	1	100	*	1-3	400 00
1,562	4	277	2,240 00	120	8,400 00
1,773	20	306	7,670 00	100	19,873 88
1,061	2	250	500 00	*	1,500 00
2,032	8	306	3,640 00	*	12,300 00
521	3	300	2,000 00	50	6,752 96

UMBRELLA FRAMES.

				Doz. sets.	
1,707	225	295	$68,865 00	*	$139,000 00
1,645	110	290	40,136 00	112,448	93,500 00
				Sets.	
1,594	85	300	30,330 00	90,000	67,363 30
				Tons.	
2,056	150	300	58,186 79	500	170,436 62

* Nothing reported.

GENERAL STATISTICS OF IRON AND STEEL MANUFACTURES FOR THE YEAR 1895.

FILTERS.

Number of return.	Average number of persons employed.	Number of days in operation.	Aggregate amount of wages paid.	Total product.	Value of product.
				Filters.	
441	3	306	$1,699 45	42	$7,675 00

HOUSEHOLD SPECIALTIES.

				Tons.	
1,483	1	156	*	.....	$400 00
998	207	287	$107,574 94	1,065	195,000 00
1,416	2	300	1,000 00	*	2,000 00
2,279	70	290	24,902 93	2,320	74,393 44
1,165	80	275	30,723 33	950	70,509 03
1,277	272	299	123,116 04	*	185,698 15
1,676	5	300	2,400 00	21	8,000 00
1,281	9	308	3,471 25	42	16,463 57
1,166	78	280	34,654 07	1,114	79,910 62
				Gross.	
1,470	3	100	400 00	200	1,092 42
1,638	12	299	5,138 08	*	22,353 29

* Nothing reported.

RECAPITULATION.

RECAPITULATION OF GENERAL STATISTICS OF IRON AND ERED.

Character of industries.	Number of establishments considered.	Average number of persons employed.	Average number of days in operation.	Aggregate amount of wages paid.	Average yearly earnings.
Pig metal,	48	8,548	304	$3,516,110	$411 34
Steel ingots, blooms, &c.,	6	3,479	167	1,404,832	403 80
Iron and steel,	99	54,931	294	26,315,478	479 07
Steel,	28	13,526	262	6,630,159	490 18
Tool steel,	3	46	212	28,094	610 74
Structural iron and steel,	8	3,532	296	1,952,473	552 79
Building iron,	44	1,033	300	557,808	539 99
Pipes and tubing,	24	11,537	291	4,007,939	347 39
Wire rods and nails,	13	3,923	270	1,982,069	505 24
Nails, spikes, &c.,	14	2,483	237	801,649	322 85
Axles,	11	1,436	286	679 965	473 51
Bolts and nuts,	16	1,765	254	711,966	403 38
Iron and steel forgings,	17	2,092	295	1,170,327	559 43
Steel castings,	7	1,481	267	701,819	473 88
Iron castings,	101	3,457	303	1,721,496	497 97
Chains, &c.,	10	425	278	159,340	374 92
Tacks, &c.,	5	139	205	37,271	268 14
Shovels and spades,	10	780	295	349,092	447 55
Wagon & carriage springs,	5	210	279	108,619	517 19
File works,	7	613	294	262,131	427 62
Saws, saw plates, &c.,	6	1,091	296	547,500	501 83
Augers,	3	39	223	17,607	436 08
Axes and edge tools,	16	1,231	277	455,719	370 20
Tools, not otherwise specified,	36	1,412	289	711 946	504 21
Wire & ornamental goods,	39	714	285	303,353	424 86
Spiral springs,	11	76	280	31,308	411 95
Iron and steel bridges,	8	1,580	303	773,008	489 25
Iron and steel fencing and railing,	27	162	267	68,800	424 70
Cars and car wheels,	19	4,583	300	2,244,344	489 71
Railway specialties,	9	452	290	298,394	660 16
Frogs, switches, etc.,	6	1,901	284	1,108 149	582 93
Car springs,	4	313	295	194,860	622 55
Stoves, ranges, &c.,	43	3,608	242	1,824,846	505 78
Horse shoe nails,	1	150	265	71,568	477 12
Iron and steel, "miscellaneous,"	21	340	289	140,388	412 88
Iron, "miscellaneous,"	8	1,182	290	568,967	481 36
Foundries and machine works,	149	5,652	305	2 807,091	496 65
Special machinery,	92	4 264	298	2,298 135	537 79

STEEL MANUFACTURES. 1528 ESTABLISHMENTS CONSID-
YEAR 1895.

Average daily wage.	Partial product.	Value of product.	Value of average annual product per each employe.	Character of industries.
	Tons.			
$1 35	2,750,235	$29,083,486	$3,102	Pig metal.
2 42	127,187	7,472,064	2,148	Steel ingots, blooms, etc.
1 43	5,181,210	115,839,249	2,109	Iron and steel.
1 87	827,108	24,409,591	1,804	Steel.
2 88	507	87,549	1,903	Tool steel.
1 87	150,178	5,125,160	1,451	Structural iron and steel.
1 83	.....	1,771,494	1,715	Building iron.
1 20	514,130	21,342,817	1,850	Pipes and tubing.
1 87	356,541	11,483,886	2,927	Wire rods and nails.
1 36	.....	3,035,306	1,223	Nails, spikes, &c.
1 66	.....	1,852,960	1,290	Axles.
1 59	.....	2,680,617	1,519	Bolts and nuts.
1 90	55,942	3,411,752	1,632	Iron and steel forgings.
1 78	22,795	1,925,063	1,300	Steel castings.
1 64	97,621	4,485,688	1,298	Iron castings.
1 35	5,886	464,171	1,092	Chains, etc.
1 31	1,376	158,411	1,139	Tacks, etc.
1 52	.....	1,208,952	1,550	Shovels and spades.
1 85	3,141	281,771	1,341	Wagon and carriage springs.
1 45	.....	746,201	1,217	File works.
1 70	.....	1,695,473	1,554	Saws, saw plates, &c.
1 96	.....	32,716	839	Augers.
1 34	.....	1,236,996	1,005	Axes and edge tools.
1 75	.....	1,774,873	1,257	Tools, not otherwise specified.
1 49	.....	1,651,991	2,313	Wire and ornamental goods.
1 47	.....	105,642	1,390	Spiral springs.
1 62	65,403	4,109,784	2,601	Iron and steel bridges.
1 59	.....	190,327	1,230	Iron and steel fencing and railing.
1 63	.....	7,160,628	1,562	Cars and car wheels.
2 28	.....	858,729	1,899	Railway specialties.
2 05	.....	2,935,214	1,544	Frogs, switches, etc.
2 11	14,272	1,177,796	3,763	Car springs.
2 09	60,043	4,220,313	1,170	Stoves, ranges &c.
1 89	.....	206,945	1,379	Horse shoe nails.
1 43	.....	575,385	1,692	Iron and steel, "Miscellaneous."
1 66	.....	1,957,482	1,657	Iron, "Miscellaneous."
1 63	.....	7,284,601	1,289	Foundries and machine works.
1 80	.....	6,371,765	1,494	Special machinery.

RECAPITULATION OF GENERAL STATISTICS OF IRON

Character of industries.	Number of establishments considered.	Average number of persons employed.	Average number of days in operation.	Aggregate amount of wages paid.	Average yearly earnings.
General machinery,	31	949	285	$474,930	$500 45
Wood-working machinery,	15	617	289	287,789	466 43
Textile machinery,	29	1,121	299	602,945	537 87
Steam pumps,	7	325	303	193,390	595 05
Dynamos and motors,	7	112	298	54,178	483 73
Iron vessels and engines,	3	6,117	305	3,133,658	512 29
Locomotives and engines,	51	11,716	293	6,430,830	548 89
Engines and boilers,	33	3,297	298	1,773,570	537 93
Machine and boiler works,	45	1,257	300	617,301	491 09
Elevators, &c.,	8	454	307	263,637	580 70
Heating apparatus,	33	1,112	279	500,729	450 29
Safes and vaults,	5	251	302	124,615	496 47
Agricultural implements,	21	957	303	350,819	366 58
Plows, cultivators, etc.,	32	247	267	97,321	394 01
Oil well supplies, tools, &c.,	38	686	306	395,989	577 23
Hardware specialties,	39	4,011	272	1,581,947	394 40
Locks,	8	150	281	48,768	325 12
Household specialties,	11	739	289	333,380	451 12
Mining specialties,	16	138	283	64,512	467 48
Plumbing goods,	19	2,337	233	1,069,455	457 62
Filters,	1	3	306	1,699	566 33
Scientific instruments, tools, &c.,	21	679	301	371,977	547 83
Scales, &c.,	6	169	298	87,999	520 70
Bicycles,	8	441	285	197,935	448 83
Metal and metallic goods,	33	400	264	196,212	490 50
Gas and water meters,	6	440	302	256,441	582 82
Gas & electrical fixtures,	19	867	278	425,845	491 17
Air brakes,	2	1,148	303	892,180	777 16
Umbrella frames,	4	570	296	197,517	346 52
Total,	1,528	185,496	286	$88,586,570	$477 56

AND STEEL MANUFACTURES. YEAR 1895—Continued.

Average daily wage.	Partial product.	Value of product.	Value of average annual product per each employe.	Character of industries
	Tons.			
$1 76	.....	$1,179,705	$1,243	General machinery.
1 61	.....	641,392	1,040	Wood-working machinery.
1 80	.....	1,875,089	1,673	Textile machinery.
1 96	.....	493,449	1,518	Steam pumps.
1 62	.....	198,375	1,771	Dynamos and motors.
1 68	.....	6,543,026	1,070	Iron vessels and engines.
1 87	.....	15,553,500	1,328	Locomotives and engines.
1 81	.....	4 923,999	1,494	Engines and boilers.
1 64	.....	1,776,043	1,413	Machine and boiler works.
1 89	.....	750,617	1,653	Elevators, etc.
1 61	.....	1,419,073	1,276	Heating apparatus.
1 64	.....	351,314	1,412	Safes and vaults.
1 21	.....	1,037,784	1,085	Agricultural implements.
7 47	.....	228,172	925	Plows, cultivators, etc.
1 92	.....	1,433,329	2,089	Oil well supplies, tools, &c.
1 45	.....	3,987,458	1,000	Hardware specialties.
1 16	.....	146,384	976	Locks.
1 56	.....	655,820	887	Household specialties.
1 65	.....	185,482	1,344	Mining specialties.
1 96	.....	2,686,301	1,150	Plumbing goods.
1 85	.....	7,675	2,558	Filters.
1 82	.....	799,261	1,177	Scientific instruments, tools, &c.
1 75	.....	294,426	1,742	Scales, &c.
1 57	.....	620,532	1,407	Bicycles.
1 86	.....	718,669	1,797	Metal and metallic goods.
1 93	.....	682,511	1,551	Gas and water meters.
1 77	.....	1,140 838	1,316	Gas and electrical fixtures
2 56	30,200	5,186,037	4,518	Air brakes
1 17	.....	470,299	825	Umbrella frames.
$1 67	.....	$336,415,068	$1,814	

SPECIAL TABLE IRON AND STEEL MANUFACTURERS. 436
UCT IN

Character of industries.	Number of establishments.	Average number of persons employed.	Average number of days in operation.	Aggregate amount of wages paid.	Average yearly earnings.
Pig metal,	43	8,548	304	$3,516,110	$411 24
Rolling mills—					
Iron and steel,	97	54,048	294	25,813,043	477 64
Structural iron and steel,	7	3,507	296	1,941,473	553 60
Steel,	27	13,520	262	6,626,620	490 13
Tool steel,	3	46	212	28,094	610 74
Steel ingots, blooms, &c.,	6	3,479	167	1,404,822	403 80
Nails, spikes, &c.,	13	2,083	238	642,467	308 43
Wire rods and nails,	13	3,938	270	1,982,069	505 24
Pipes and tubing,	24	11,537	291	4,007,933	347 39
Iron and steel forgings,	14	2,003	294	1,119,151	558 73
Steel castings,	7	1,481	267	701,819	473 88
Iron castings,	101	3,457	303	1,721,496	497 97
Bridges (iron and steel),	8	1,580	303	773,008	489 25
Tacks, &c.,	5	139	205	37,271	268 14
Chains,	9	418	280	155,801	372 73
Stoves, ranges, heaters, &c.,	48	3,608	242	1,824,846	505 78
Wagon & carriage springs,	5	210	279	108,610	517 19
Car springs,	4	312	295	194,869	622 55
Air brakes,	2	1,148	303	892,180	777 16

ESTABLISHMENTS CONSIDERED THAT GAVE THEIR PROD-
FULL.

Average daily wage.	Product in tons	Value of product.	Average annual product per each employe.	Value of average annual product per each employe.	Value per ton of product.
			Tons.		
$1 35	2,770,235	$29,083,486	321.74	$3,402	$10 57
1 63	5,184,210	114,319,765	95.92	2,115	22 05
1 87	150,178	5,085,460	42.82	1,450	33 86
1 87	827,108	24,494,046	61.17	1,805	29 55
2 88	507	87,519	11.02	1,903	172 68
2 42	427,487	7,472,064	122.87	2,148	17 48
1 29	68,413	2,376,204	32.84	1,140	34 73
1 87	356,541	11,483,886	90.88	2,927	32 21
1 20	514,430	21,342,817	44.57	1,850	41 48
1 90	57,942	3,279,113	27.92	1,637	58 62
1 78	22,795	1,925,063	15.39	1,300	84 45
1 64	97,621	4,485,688	28.24	1,298	45 95
1 02	65,408	4,109,784	41 39	2,601	62 84
1 31	1 376	158,411	9.90	1 139	115 12
1 33	5,886	461,487	14 68	1,104	78 40
2 09	60 043	4,220 313	16.64	1,170	70 29
1 85	3,141	281,771	14.95	1,341	89 71
2 11	14,272	1 177,796	47.59	3,763	82 53
2 56	30,200	5,186,037	26.30	4,518	171 72

While the foregoing compilation of iron and steel data is not as complete as desired, yet its great value as exhibiting the magnitude of the manufacture of iron, steel and the products therefrom, is most apparent. The general table shows the number of establishments represented in each of the sixty-seven classifications considered, the average number of persons employed, average number of days in operation, aggregate amount of wages paid, average yearly and daily earnings, value of annual product and average value of product for each person employed. Many of the 1,528 establishments considered in this general table relating to iron and steel manufacture failed to give the product of their respective establishments in tons. Hence deductions based upon the tonnage cannot be made with the same degree of certainty or accuracy as those made with reference to the other consolidated information. However, with a view of arriving at the most accurate results with reference to tonnage statistics a special table is given above in which 436 iron and steel manufacturing establishments are considered. The information compiled in this table, in addition to that contained in the general table embracing 1,528 establishments, contains the products of the 436 establishments in tons, the average production in tons per each employe and the value per ton of product. Based on the compilations contained in the two tables referred to deductions are made on some of the more important features of these statistics. It will be seen that there are 48 establishments manufacturing pig iron. These establishments placed under this head do not include all the blast furnaces in operation in Pennsylvania, as for instance, a concern manufacturing iron and steel may have its own blast furnace, and therefore make its own pig metal. In such cases the establishment may not be included among the 48 indicated as pig iron manufacturers, but is usually classified with reference to the finished product.

The general tables exhibiting that branch of iron and steel manufacture indicated in these returns as "Iron and steel," show 99 establishments considered, with 54,931 persons employed, 294 days of operation, and $26,315,478.00 aggregate of wages paid. Average yearly earnings, $479.07; daily wage, $1.63, and value of product $115,839,249.00. In the special or tonnage table only the number of establishments are considered that give their complete tonnage. In place of 99 establishments of Iron and steel the special table deals with 97, or such as give their entire tonnage. The number of persons employed is given in this table as 54,043; days of operation, 294; aggregate amount of wages, $25,813,043.00; average yearly earnings, $477.64; average daily wage, $1.63. Total production, 5,184,210 net tons. Value, $114,319,765.00, corresponding with the 97 establishments. Thus it will be readily seen that the special

table is but a deduction from the general tables, supplemented by the tonnage. In this special table will be found 11 branches of iron and steel manufacture outside of Pig metal, and outside of the industries engaged in the manufacture of the product of iron and steel. These 11 branches, or classifications, represent 312 establishments giving employment to 99,079 persons, including all labor, skilled and unskilled, men and boys, and such women and girls as may be employed in any of these branches of iron and steel manufacture. These 99,079 persons were paid wages aggregating $45,989,003.00, a per capita of $464.16, or an average daily wage for all persons employed of $1.64. The same 11 branches show an output of 7,705,232 net tons of iron and steel, with a corresponding value of $196,261,655.00, an average value per net ton of $25.47. In these 11 branches of iron and steel, the highest average daily wage is found in the manufacture of Tool steel. The average for all persons employed being $2.88. The next highest is found in Steel ingots, blooms, etc., $2.42; the next in Iron and steel forgings, $1.90; in Structural iron and steel, Steel and wire rods and nails, the same average is found, $1.87 per day; the next highest is Steel castings, $1.78 per day; the next, Iron castings, $1.64 per day; the next Iron and steel, $1.63 per day; the next, Nails, spikes, etc., $1.36 per day; closing with Pipes and tubing, $1.20 per day.

Outside of these 11 branches of iron and steel manufacture the highest average daily wage is found in the manufacture of Air brakes, $2.56 per day; the next highest is found in the manufacture of Railway specialties, $2.28 per day; the next highest in Car springs, $2.11 per day; the next highest in Stoves, ranges, etc., $2.09 per day; and the next highest is found in the manufacture of Frogs, switches, etc., $2.05 per day. After this the daily wage is found to be below $2.00 per day, and by industries graded as follows:

Augers, average $1.96 per day.
Steam pumps, average $1.96 per day.
Plumbing goods, average $1.96 per day.
Gas and water meters, average $1.93 per day.
Oil well supplies, tools, etc., average $1.92 per day.
Elevators, etc, average $1.89 per day.
Locomotives and engines, average $1.87 per day.
Metal and metallic goods, average $1.86 per day.
Wagon and carriage springs, average $1.85 per day.
Filters, average $1.85 per day.
Scientific instruments, tools, etc, average $1.82 per day.
Engines and boilers, average $1.81 per day.
Building iron, average $1.80 per day.
Horse shoe nails, average $1.80 per day.
Special machinery, average $1.80 per day.

Textile machinery, average $1.80 per day.
Gas and electrical fixtures, average $1.77 per day.
General machinery, average $1.76 per day.
Tools not otherwise specified, average $1.75 per day.
Scales, etc., average $1.75 per day.
Saws, saw plates, etc, average $1.70 per day.
Iron vessels and engines, average $1.68 per day.
Axles, average $1.66 per day.
Miscellaneous iron manufacturing, average $1.66 per day.
Mining specialties, average $1.65 per day.
Safes and vaults, average $1.64 per day.
Machine and boiler works, average $1.64 per day.
Cars and car wheels, average $1.63 per day.
Founders and machine works, average $1.63 per day.
Dynamos and motors, average $1.62 per day.
Iron and steel bridges, average $1.62 per day.
Wood working machinery, average $1.61 per day.
Heating apparatus, average $1.61 per day.
Bolts and nuts. average $1.59 per day.
Iron and steel fencing, railings, etc., average $1.59 per day.
Bicycles, average $1.57 per day.
Household specialties, average $1.56 per day.
Shovels and spades, average $1.52 per day.
Wire and ornamental goods, average $1.49 per day.
Spiral springs, average $1.47 per day.
Plows, cultivators, etc., average $1.47 per day.
Files, average $1.45 per day.
Hardware specialties, average $1.45 per day.
Miscellaneous iron and steel, average $1.43 per day.
Chains, average $1.35 per day.
Axes and edged tools, average $1.34 per day.
Tacks, etc., average $1.31 per day.
Agricultural implements, average $1.21 per day.
Umbrella frames, average $1.17 per day.
Locks, average $1.16 per day.

Among the industries where wood, or other material foreign to iron or steel form a part of the manufacture, they have been eliminated, so far as was possible, from this work.

The 1,528 establishments considered in the manufacture of iron and steel, and the product of iron and steel, and including Pig metal, show a total employment for 1895 of 185,496 persons, an average daily wage of $1.67 and a per capita of $477.56. The aggregate amount of wages paid was $88,586,570.00, and the total value of the goods made was $336,415,068.00. The following classification by groups, showing the per capita and average daily wage will be of interest:

Seven branches or classifications, representing 73 establishments, and giving employment to 10,947 persons, were paid an average daily wage from $2.05 to $2.88, a per capita of $525.

Five branches, 73 establishments, employing 3,827 persons, averaged over $1.90 per day, a per capita of $504.00.

Eleven branches, 221 establishments, employing 39,832 persons, over $1.80 per day, per capita $524.00.

Nine branches, 265 establishments, 11,446 persons, over $1.70 per day, per capita $517.00.

Fifteen branches, 525 establishments, 83,516 persons, over $1.60 per day, per capita $484.00.

Five branches, 72 establishments, 3,887 persons, over $1.50 per day, per capita $427.00.

Six branches, 149 establishments, 6,001 persons, over $1.40 per day, per capita $402.00.

Five branches, 93 establishments, 12,826 persons, over $1.30 per day, per capita $387.00.

Two branches, 45 establishments, 12,494 persons, $1.20 and over per day, per capita $348.00.

Two branches, 12 establishments, 720 persons, $1.16 to $1.17 per day, per capita $328.00. The variation occasionally shown in the per capita, as compared with the average daily wage, is occasioned by the difference in days of employment.

A further analysis shows that of the 67 classifications considered in these tables, representing 1,528 establishments, and an employment of 185,496 persons, 47 classifications, representing 1,157 establishments, and 149,568 persons employed, paid an average per capita of wages of $501. The aggregate amount of wages paid to these 149,568 persons being $74,933,817.

A careful study of British reports of wages paid in the iron and steel industry shows that about the same relative difference exists as in the tin plate industry, a complete comparison of which will be found in the tin plate analysis in the preceding pages.

SILK MANUFACTURE.

Office number of establishments reporting.	When established.	What manufactured.	Machinery. Number of spindles. For winding and doubling. Number started with.	Number now.	Increase.	Percentage of increase.
5	1891	Thrown silk,	856	1,248	392	45.7
3	1887	Silk yarns,	5,021	5,260	239	4.7
20	1890	Tram and organzine,	3,484	5,780	2,296	66.
17	1890	Thrown silk,	896	1,916	1,020	113.
4	1863	Sewing and machine silk and all kinds of silk thread,	650	1,300	650	100.
11	1891	Thrown silk,	4,600	4,600	.....	.....
6	1881	Silk yarns,	414	414	.....	.....
13	1894	Organzine and crepe twist,	900	1,122	222	24.6
8	1888	Thrown silk,	3,264	7,208	3,944	120.
50	1887	Thrown silk,	600	5,700	5,100	850.
19	1880	Organzine and tram,	400	3,590	3,190	797.
21	1890	Tram, floss, etc.,	1,960	1,960	.....	.....
7	1894	Ribbons,	776	776	.....	.....
18	1875	Dress and millinery trimmings,	1	12	11	1100.
1	1845	Narrow textile fabrics,	A	632	.....	.....
10	1889	Dress trimmings,	None	168	168	.....
9	1887	Dress and millinery trimmings,	1	5	4	400.
52	1887	Thrown silk and dress goods,	1,000	3,534	2,534	253.
30	1893	Mufflers, dress goods and tie silks,	560	3,444	2,884	515.
2	1888	Plain dress goods,	448	3,862	3,414	762.
22	1873	Dress goods, linings, umbrella silk and yarns,	2,335	33,194	30,859	1321.
12	1880	Silk tapestries and furniture coverings,	1	15	14	1400.
16	1852	Neckties, beltings, gimps and upholstery fringe,	10	412	402	4020.
54	1883	Upholstery trimmings,	2	4	2	100.
14	1892	Pongees, millinery goods and novelties,	160	274	114	71.2
39	1888	Spool silks and broad goods,	3,000	3,526	526	17.5
43	1886	Ribbons and silk yarns,	4,042	4,042	.....	.....
31	1889	Ribbons,	2	25	23	1150.
25	1894	Ribbons,	128	225	97	75.7
51	1886	Broad silk goods, plain and fancy,	350	6,400	6,050	1728.
33	1893	Ribbons,	2	2	.....	.....
63	1886	Dress silk,	900	1,480	580	64.4
49	1888	Thrown silk and ribbons,	10,400	14,208	3,808	36.6
27	1886	Thrown silk and ribbons,	2,128	2,968	840	39.5

SILK MANUFACTURE—Continued.

Office number of establishments reporting.	When established.	What manufactured.	Machinery. Number of spindles. For winding and doubling. Number started with.	Number now.	Increase.	Percentage of increase.
35	1886	Thrown silk, ribbons, fancy prints, duchesse, etc., ...	A	1,760	.....	.....
48	1881	Thrown silk, duchesse and fancy prints, *	1,980	1,746	Decrease, 240	.....
59	1883	Thrown silk, plushes, velvets and ribbons, ...	3,643	5,152	1,509	41.4
56	1885	Curtains and upholstery goods, ..	80	890	810	1012.
60	1887	Ladies and children's underwear.	32	304	272	850.
			55,026	129,152	71,734	130.4

A Not known.

* Decrease caused by fire

SILK MANUFACTURE—Continued.

Office number of establishments reporting.	When established.	What manufactured.	MACHINERY. Number of spindles. For spinning and twisting. Number started with.	Number now.	Increase.	Percentage of increase.
5	1891	Thrown silk.	5,196	5,196	.....	.....
3	1887	Silk yarns.	10,280	11,976	1,696	16.5
20	1890	Tram and organzine.	14,968	20,432	5,464	37.
17	1890	Thrown silk.	5,696	10,576	4,880	85.6
4	1863	Sewing and all kinds of silk thread.	2,000	4,000	2,000	100.
11	1891	Thrown silk.	9,000	9,000	.....	.....
6	1881	Silk yarns.	3,240	7,804	4,564	140.
13	1894	Organzine and crepe twist.	3,800	5,528	1,728	45.4
8	1888	Thrown silk.	12,000	38,702	26,702	222.
50	1887	Thrown silk.	2,366	22,160	20,794	878.
19	1880	Organzine and tram.	A	7,020	.....	.....
21	1890	Tram, floss, etc.,	1,200	1,200	.....	.....
7	1894	Ribbons.	1,850	1,850	.....	.....
18	1875	Dress and millinery trimmings.	6	56	50	833.
1	1845	Narrow textile fabrics.	A	430	.....	.....
10	1889	Dress trimmings.	None	231	231	.....
9	1887	Dress and millinery trimmings.	3	8	5	166.
52	1887	Thrown silk and dress goods.	3,500	10,000	6,500	185.
39	1893	Mufflers, dress goods and tie silks.	2,000	17,900	15,900	795.
2	1888	Plain dress goods.	1,000	8,000	7,000	700.
22	1873	Dress goods, linings, umbrella silk.	4,166	67,277	63,111	1514.
39	1888	Spool silks and broad goods.	7,004	8,660	1,656	23.6
43	1886	Ribbons and silk yarns.	18,050	18,050	.....	.....
31	1889	Ribbons.	None	28	28	.....
51	1886	Broad silk goods, plain and fancy.	1,850	20,328	19,240	1,768.
63	1886	Dress silks.	288	800	512	177.
49	1888	Thrown silk and ribbons.	30,000	46,776	16,776	55.9
27	1886	Thrown silk and ribbons.	7,680	8,616	936	12.1
35	1886	Thrown silk, ribbons, fancy prints and duchesse, etc.,	7,707	7,707	.....	.....
48	1881	Thrown silk, duchesse and fancy prints,*	23,470	15,490	Dec., 7,980	.....
59	1883	Thrown silk, plushes, velvets and ribbons.	11,558	13,650	2,092	18.
			189,116	290,451	192,885	102.5

A Not known.

* Decrease caused by fire.

SILK MANUFACTURE—Continued.

Office number of establishments reporting.	When established.	What manufactured.	Machinery. Number of spindles. For braiding. Number started with.	Number now.	Increase.	Percentage of increase.
4	1863	Sewing and all kinds of silk thread,	None	9	9	.....
10	1889	Dress trimmings,	None	1,603	1,603	.....
15	1875	Dress trimmings, neckties, etc.,	5,000	35,000	30,000	600.
9	1887	Dress and millinery trimmings,	4	27	23	575.
16	1852	Neckties, beltings, gimps and upholstery fringe,	None	560	560	.....
54	1888	Upholstery trimmings,	None	8	8	.....
32	1888	Spool silks and broad goods,	1,200	1,200	.....	.....
33	1893	Ribbons,	1	2	1	100.
			6,205	37,809	31,604	509.3

SILK MANUFACTURE—Continued.

Office number of establishment.	When established.	What manufactured.	Machinery. Number of hand looms. Number started with.	Number now.	Increase.	Percentage of increase.
		PLAIN BROAD GOODS.				
18	1875	Dress and millinery trimmings,	4	14	10	250.
1	1845	Narrow textile fabrics,	None	2	2	.....
15	1875	Dress trimmings, neckties, etc.,	12	12	None	.....
26	1876	Fringes, cords, tassels, ornaments, etc.,	1	3	2	200.
23	1885	Dress and millinery trimming and braids,	5	30	25	500.
24	1866	Upholstery goods,	5	None	*(—5)	*—500.
		Total plain broad goods,	27	61	34	126.
		JACQUARD.				
54	1883	Upholstery trimmings,	None	6	6	.....
12	1880	Silk tapestry and furniture coverings,	5	96	91	1820.
1	1845	Narrow textile fabrics,	44	48	4	9.
		Total Jacquard,	49	150	101	206.
		NARROW GOODS.				
1	1845	Narrow textile fabrics,	None	45	45	.....
10	1880	Dress trimmings,	3	9	6	200.
15	1875	Dress trimmings, neckties, etc.,	6	6	None	.....
54	1883	Upholstery trimmings,	3	34	31	1033.
56	1885	Curtains and upholstery goods,	20	None	*(—20)	*—2000.
		Total narrow goods,	32	94	62	193.
		Total hand looms, all kinds.	108	305	197	182.

*Decrease.

SILK MANUFACTURE—Continued.

Office number of establishment.	When established.	What manufactured	Machinery. Number of power looms. Number started with.	Number now.	Increase.	Percentage of increase
		PLAIN BROAD GOODS.				
18	1875	Dress and millinery trimmings...	None	1	1	.....
1	1845	Narrow textile fabrics, ...	None	4	4	.....
24	1866	Upholstery goods, ...	None	49	49	.....
52	1887	Dress goods, ...	12	127	115	958.
30	1892	Mufflers, dress goods and tie silk, ...	100	352	252	252.
2	1888	Plain dress goods, ...	24	96	72	300.
22	1873	Dress goods, linings, umbrella silk and yarns, ...	80	490	410	512.
14	1892	Pongees, millinery goods and novelties, ...	100	237	137	137.
39	1888	Spool silks and broad goods,....	None	190	190	.....
51	1886	Broad silk goods, plain and fancy, ...	52	183	131	252.
63	1886	Dress silks, ...	100	185	85	85.
35	1886	Ribbons, fancy prints, duchesse, etc., ...	None	120	120	.....
48	1881	Duchesse and fancy prints,.....	120	40	*(—80)	*—66.
58	1893	Dress goods, ...	30	334	304	1013.
32	1865	Broad dress silks and ribbons,..	18	60	42	233.
34	1882	Dress goods and linings—men's wear, ...	5	28	23	460.
47	1881	Broad silks and ribbons, ...	54	596	542	1003.
33	1886	Broad silks and ribbons, ...	100	350	250	250.
62	.....	Silk interlining for courtplaster,	1	3	2	200.
		Total plain broad goods,...	796	3,445	2,649	332.
		PLUSHES AND VELVETS.				
59	1883	Velvets and plushes,.....	None	24	24	.....
65	1880	Velvets and plushes, ...	100	385	285	285.
57	1890	Plushes, ...	16	38	22	137.
42	1885	Plushes, ...	6	29	23	383.
		Total velvets and plushes,.	122	476	354	290.
		JACQUARD.				
18	1875	Dress and millinery trimmings,.	4	30	26	650.
1	1845	Narrow textile fabrics, ...	6	39	33	550.
15	1875	Dress trimmings, neckties, etc..	18	52	34	189.
54	1883	Upholstery trimmings, ...	None	26	26	.....
53	1885	Curtains and upholstery goods.	12	114	102	850.

SILK MANUFACTURE—Continued.

Office number of establishment.	When established.	What manufactured.	Machinery. Number of power looms. Number started with.	Number now.	Increase.	Percentage of increase.
24	1866	Upholstery goods, ...	None	123	123	.....
22	1873	Dress goods, linings, umbrella silks and yarns, ...	None	18	18	.....
16	1852	Neckties, beltings, gimps and upholstery fringes, ...	None	40	40	.....
14	1892	Pongees, millinery goods and novelties, ...	None	1	1	.....
39	1838	Spool silks and black goods,.....	None	110	110	.....
51	1886	Broad silk goods, plain and fancy, ...	None	167	167	.....
63	1886	Dress silks, ...	None	40	40	.....
44	1875	Brocatelles, silk damasks and upholstery goods, ...	20	208	188	940.
40	1889	Silk brocatelles and satin damasks, ...	3	25	22	733.
47	1881	Broad silks and ribbons,.....	None	64	64	.....
36	1885	Ribbons, plain and fancy,.....	None	5	5	.....
61	.....	Ribbons, etc., ...	None	1	1	.....
53	1891	Table covers, ...	4	10	6	150.
62	.....	Silk interlining for courtplasters,	1	1	None	.....
64	1892	Trimmings, ...	12	32	20	166.
		Total jacquard, ...	80	1,106	1,026	1282.
		RIBBONS.				
7	1894	Ribbons, ...	1	23	22	2200.
1	1845	Narrow textile fabrics,.....	None	12	12	.....
16	1852	Neckties, silk beltings, etc.,....	None	20	20	.....
43	1886	Ribbons, etc., ...	72	122	50	69.
31	1889	Ribbons, ...	10	59	49	490.
25	1894	Ribons, ...	3	9	6	200.
33	1893	Ribbons, ...	2	6	4	200.
49	1888	Ribbons and thrown silk,.....	None	75	75	.....
27	1886	Ribbons and thrown silk,.....	10	52	42	420.
35	1886	Ribbons, duchesse, etc., ...	None	45	45	.....
59	1883	Plushes, ribbons, etc.,.....	None	71	71	.....
58	1893	Ribbons and dress goods,.....	None	10	10	.....
32	1865	Dress silks and ribbons,.....	12	65	53	441.
41	1889	Ribbons, ...	6	40	34	566.
47	1881	Broad silks and ribbons, ...	32	184	152	475.
36	1885	Ribbons, ...	10	56	46	460.

SILK MANUFACTURE—Continued.

Office number of establishment.	When established.	What manufactured.	Machinery. Number of power looms. Number started with.	Number now.	Increase.	Percentage of increase.
38	1886	Broad silks and ribbons, ...	None	40	40	.....
61	.....	Ribbons, ...	14	42	28	200.
		Total ribbons, ...	172	931	759	411.
		OTHER NARROW GOODS.				
42	1885	Plushes, ...	6	40	34	566.
1	1845	Narrow textile fabrics, ...	None	45	45	.....
16	1889	Dress trimmings, ...	3	9	6	200.
56	1885	Curtains and upholstery goods,..	None	5	5	.....
23	1885	Dress and millinery trimmings and braids, ...	12	37	25	208.
9	1887	Dress and millinery trimmings,.	None	14	14	.....
29	1863	Narrow fabrics, ...	None	66	66	.....
		Total other narrow goods,.	21	210	189	900.
		Total power looms, all kinds, ...	1,191	6,168	4,977	417.

*Decrease caused by fire.

SILK MANUFACTURE—Continued.

Office number of establishments.	When established.	What manufactured.	Machinery. Number of machines—Classified. Number started with.	Number now.	Increase.	Percentage of increase.
		KNITTING MACHINES.				
60	1887	Ladies and children's underwear.	8	43	35	437.
46	1876	Elastic bandages, ...	2	8	6	300.
37	1889	Hosiery, ...	10	40	30	300.
18	1875	Dress and millinery trimmings,..	None	9	9	.....
1	1845	Narrow textile fabrics, ...	None	4	4	.....
19	1889	Dress trimmings, ...	1	8	7	700.
15	1875	Dress trimmings, neckties, etc.,	None	15	15	.....
54	1883	Upholstery trimmings, ...	None	1	1	.....
26	1876	Fringes, cords, tassels, ornaments, &c., ...	4	4	None	None
23	1885	Dress and millinery trimmings and braids, ...	None	9	9	.....
9	1887	Dress and millinery trimmings,.	1	5	4	400.
		Total knitting machines,....	26	146	120	461.
		LACE MACHINES.				
45	1891	Braids and laces, ...	6	24	18	300.
55	1891	Edgings, ...	15	15	None	None
		Total lace machines,.....	21	39	18	85.
		SEWING MACHINES.				
46	1876	Elastic bandages, ...	None	6	6	.....
37	1889	Hosiery, ...	15	35	20	133.
18	1875	Dress and millinery trimmings..	None	7	7	.....
1	1845	Narrow textile fabrics, ...	None	42	42	.....
15	1875	Dress trimmings, neckties, etc.,.	2	20	18	900.
54	1883	Upholstery trimmings, ...	None	1	1	.....
23	1885	Dress and millinery trimmings and braids, ...	6	10	4	66.
9	1887	Dress and millinery trimmings,.	None	2	2	.....
16	1872	Neckties, beltings, gimps and upholstery fringes, ...	None	5	5	.....
7	1894	Ribbons, ...	2	2	None	None
24	1866	Upholstery goods, ...	None	10	10	.....
56	1885	Curtains and upholstery goods,..	1	5	4	400.
		Total sewing machines,....	26	145	119	457.

SILK MANUFACTURE—Continued.

Office number of establishments.	When established.	What manufactured.	Machinery. Number of machines—Classified. Number started with.	Number now.	Increase.	Percentage of increase.
		BRAIDING MACHINES.				
1	1875	Dress and millinery trimmings,	None	220	220	.....
1	1845	Narrow textile fabrics,	61	218	157	257.
10	1881	Dress trimmings,	None	56	56	.....
15	1875	Dress trimmings, neckties, etc.,	100	350	250	250.
54	1883	Upholstery trimmings,	None	8	8	.....
23	1885	Dress and millinery trimmings and braids,	None	712	712	.....
16	1852	Neckties, beltings, gimps and upholstery fringes,	None	80	80	.....
28	1882	Dress, upholstery and other trimmings,	2	6	4	200.
45	1891	Braids and laces,	40	300	260	650.
		Total braiding machines,	203	1,950	1,747	860.
15	1875	Dress trimmings neckties, &c.—Chenille and spinning machines,	2	15	13	650.
15	1875	Dress trimmings neckties, &c.—Winding machines,	5	15	10	200.
15	1875	Dress trimmings neckties, &c.—Spinning & twisting machines,	5	25	20	400.
		Total machines, all kinds,	288	2,335	2,047	710.

SILK MANUFACTURE—Continued.

Office number.	What manufactured.	Employes.			
		Classified.			
		Total number employes.	Males over 16.	Females over 16.	Children between 13 and 16.
5.	Thrown silk,	80	32	27	21
3.	Silk yarns,	300	113	88	99
20.	Tram and organzine,	192	45	83	64
17.	Thrown silk,	122	20	30	72
4.	Sewing and all kinds silk thread,	142	19	116	7
11.	Thrown silk,	200	16	97	87
6.	Silk yarns,	183	48	88	47
13.	Organzine and crepe twist,	52	21	28	3
8.	Thrown silk,	375	86	170	119
50.	Thrown silk,	195	20	100	75
19.	Organzine and tram,	200	13	165	22
21.	Tram, floss, etc.,	50	8	42	.....
7.	Ribbons,	80	20	60	.....
18.	Dress and millinery trimmings,	152	75	70	7
1.	Narrow Textile Fabrics,	395	57	338	.....
10.	Dress trimmings,	10	5	5	.....
9.	Dress and millinery trimmings,	82	16	62	4
52.	Thrown silk and dress goods,	171	27	102	42
30.	Mufflers, dress goods and tie silk,	381	87	179	115
2.	Plain dress goods,	220	50	150	20
22.	Dress goods, linings, umbrella silks and yarns,	1,658	140	674	844
12.	Silk tapestries and furniture coverings,	130	108	5	17
16.	Neckties, silk belting, gimps and upholstery fringe,	227	153	52	22
54.	Upholstery trimmings,	114	24	76	14
14.	Pongees, millinery goods and novelties,	180	33	106	41
39.	Spool silk and broad goods,	521	354	104	63
43.	Ribbons and silk yarns,	367	124	144	99
31.	Ribbons,	223	110	81	32
25.	Ribbons,	22	9	10	3
51.	Broad silk goods, plain and fancy,	310	85	90	135
33.	Ribbons,	13	9	4	.....
63.	Dress silk,	275	26	220	29
49.	Thrown silk and ribbons,	550	100	250	200
27.	Thrown silk and ribbons,	220	58	126	36
35.	Thrown silk, ribbons, fancy prints, Duchesse, etc.,	186	14	93	79
48.	Thrown silk, Duchesse and fancy prints,	109	14	36	59
39.	Thrown silk, plushes, velvets and ribbons,	395	170	147	78
56.	Curtains and upholstery goods,	161	105	45	11
60.	Ladies and children's underwear,	97	6	90	1
29.	Narrow fabrics,	45	5	40	.....
58.	Dress goods,	373	30	250	93
44.	Brocatelles, silk damasks, upholstery goods and draperies,	328	201	108	19

SILK MANUFACTURE—Continued.

Office number.	What manufactured.	Employes.			
		Classified.			
		Total number employes.	Males over 16.	Females over 16.	Children between 13 and 16.
40.	Silk brocatelles and satin damasks,	25	20	2	3
32.	Broad dress silk and ribbons,	132	48	76	8
41.	Ribbons,	54	23	29	2
34.	Dress goods, linings and men's wear,	15	5	10	.....
47.	Broad silks and ribbons,	1,056	302	681	73
36.	Ribbons, plain and fancy,	135	67	49	19
42.	Silk plushes,	48	30	12	6
57.	Plushes,	113	81	32	...
38.	Broad silk and ribbons,	355	30	300	25
61.	Ribbons,	85	43	39	3
53.	Table covers,	19	7	12	.....
62.	Silk used in making court plaster,	3	2	1	.....
46.	Elastic bandages,	22	12	10	.....
37.	Hosiery,	110	32	66	12
55.	Edgings,	15	15	.....	.....
45.	Braids and laces,	53	35	15	3
15.	Dress trimmings, neckties, etc.,	175	50	100	25
26.	Fringes, cords, tassels, ornaments, etc.,	3	1	2	.....
24.	Upholstery goods,	332	188	106	78
28.	Dress, upholstery and other trimmings,	12	4	8	.....
23.	Dress and millinery trimmings and braids,	100	10	60	.....
64.	Trimmings,	132	12	88	32
65.	Velvets and plushes,	735	150	485	100
	Total,	13,815	3,853	6,934	3,028

SILK MANUFACTURE—Continued.

Office number.	What manufactured.	Wages.				
		Weeks in operation.	Total number employes.	Wages.	Average wages per capita.	Average wages per week.
5.	Thrown silk,	52	80	$13,586 81	$169 83	$3 26
3.	Silk yarns,	52	300	46,812 37	156 01	3 00
20.	Tram and organzine,	52	192	39,311 00	204 74	3 94
17.	Thrown silk,	50	122	18,254 76	149 62	2 99
4.	Sewing and all kinds of silk thread,	49	142	37,785 16	266 09	5 43
11.	Thrown silk,	52	200	35,375 38	176 88	3 40
6.	Silk yarns,	52	183	57,092 97	311 98	5 99
13.	Organzine and crepe twist,	40	52	10,432 35	200 62	5 01
8.	Thrown silk,	50	375	47,944 55	127 85	2 55
50.	Thrown silk,	52	195	33,251 89	170 53	3 28
19.	Organzine and tram,	50	200	40,000 00	200 00	4 00
21.	Tram, floss, etc.,	52	50	13,837 66	276 75	5 32
7.	Ribbons,	52	80	18,500 00	231 25	4 44
18.	Dress and millinery trimmings,	52	152	37,684 20	247 92	4 76
1.	Narrow textile fabrics,	52	395	93,588 00	236 93	4 55
10.	Dress trimmings,	52	10	4,701 37	470 13	9 04
9.	Dress and millinery trimmings,	52	82	22,500 00	274 39	5 27
52.	Thrown silk and dress goods,	52	171	36,895 40	215 76	4 15
30.	Mufflers, dress goods and tie silk,	51	381	79,612 50	208 95	4 09
2.	Plain dress goods,	50	220	46,460 33	211 18	4 22
22.	Dress goods, linings, umbrella silks and yarns,	52	1,658	489,440 85	295 19	5 68
12.	Silk tapestries and furniture coverings,	50	130	107,013 95	823 18	16 46
16.	Neckties, silk belting, gimps and upholstery fringe,	52	227	77,314 83	340 72	6 55
54.	Upholstery trimmings,	52	114	33,658 42	295 25	5 68
14.	Pongees, millinery goods and novelties,	50	180	35,930 81	199 61	3 99
39.	Spool silks and broad goods,	43	521	154,848 41	297 21	6 91
43.	Ribbons and silk yarns,	49	367	104,016 60	283 42	5 78
31.	Ribbons,	50	223	51,000 00	228 69	4 57
25.	Ribbons,	48	22	7,420 00	337 27	7 02
51.	Broad silk goods, plain and fancy,	51	310	78,522 17	253 29	4 96
33.	Ribbons,	50	13	3,108 57	239 12	4 78

SILK MANUFACTURE—Continued.

Office number.	What manufactured.	Wages.				
		Weeks in operation.	Total number employes.	Wages.	Average wages per capita.	Average wages per week.
63.	Dress silks,	51	275	47,400 00	172 36	3 38
49.	Thrown silk and ribbons,	42	550	106,245 96	193 17	4 59
27.	Thrown silk and ribbons,	52	220	34,807 50	158 21	3 04
35.	Thrown silk, ribbons, fancy prints, Duchesse, etc.,	52	186	45,747 85	245 95	4 73
48.	Thrown silk, Duchesse and fancy prints,	52	109	23,626 50	216 75	4 17
59.	Thrown silk, plushes, velvets and ribbons,	52	395	79,106 00	200 27	3 85
56.	Curtains and upholstery goods,	52	161	71,250 00	412 54	8 51
60.	Ladies' and children's underwear,	50	97	19,648 98	202 56	4 05
29.	Narrow fabrics,	52	45	6,210 00	138 66	2 65
58.	Dress goods,	52	373	77,513 63	207 81	3 99
44.	Brocatelles, silk damasks, upholstery goods and draperies,	52	328	176,422 72	537 87	10 34
40	Silk brocatelles and satin damasks,	52	25	15,997 23	639 88	12 30
32.	Broad dress silks and ribbons,	48	132	42,830 00	324 47	6 76
41.	Ribbons,	50	54	33,882 30	627 45	12 54
34.	Dress goods and linings, men's wear,	52	15	6,030 87	402 05	7 73
47.	Broad silks and ribbons,	52	1 056	622,572 69	590 50	11 35
36.	Ribbons, plain and fancy,	50½	135	49,346 88	365 53	7 23
42.	Silk plushes,	52	48	30,569 67	636 87	12 24
57.	Plushes,	52	113	45,146 28	399 52	7 68
38	Broad silk and ribbons,	51	355	95,640 00	269 41	5 28
61.	Ribbons,	52	85	19 050 82	224 13	4 31
53.	Table covers,	18	19	2,340 00	123 15	6 84
62.	Silk used in making court plaster,	39	3	897 00	299 00	7 66
46.	Elastic bandages,	52	22	10,400 00	472 72	9 09
37.	Hosiery,	52	110	44,200 07	401 82	7 73
55.	Edgings,	30	15	4,242 00	282 80	9 42
45.	Braids and laces,	52	53	27,913 00	526 66	10 13
15.	Dress trimmings, neckties, etc.,	52	175	67,769 05	387 25	7 44
26.	Fringes, cords, tassels, ornaments, etc.,	40	3	800 00	266 66	6 66
24	Upholstery goods,	52	332	142,795 92	430 11	8 27

SILK MANUFACTURE—Continued.

Office number.	What manufactured.	Wages.				
		Weeks in operation.	Total number employed.	Wages.	Average wages per capita.	Average wages per week.
28.	Dress, upholstery and other trimmings,	51	12	2,363 09	196 92	3 86
23.	Dress and millinery trimmings and braids,	52	100	34,966 86	349 66	6 72
64.	Trimmings,	52	132	32,594 87	246 93	4 74
65.	Velvets and plushes,	30	735	185,000 00	251 70	8 39
		48	13,815	$4,082,292 08	$295 50	$6 15

RECAPITULATION.

Total number of establishments.	Average weeks in operation.	Total number employes.	Total amount of wages.	Total value of product.
65	48	13,815	$4,082,292 08	$24,184,583 84

RESUME.

Employes.			Wages.	
Males over 16 years of age.	Females over 16 years of age.	Children between the ages of 13 and 16.	Average per capita.	Average per week.
3,853	6,934	3,028	$295 50	$6 15

SILK MANUFACTURE IN PENNSYLVANIA.

In submitting these statistics on silk manufacture in the State, it is proper to say that to insure the most reliable information as to the present actual silk manufacturing capacity existing in Pennsylvania, especially with reference to the number of Spindles, the number of Looms, the number of Machines and the number of these with which the plant originally commenced operation, it was found necessary to make a personal visitation to all of these silk plants of the State. The interest taken and the prompt and hearty co-operation on the part of the manufacturers, gives assurance that the information furnished by them and herewith presented, is worthy of credit. In the tables, the percentage of increase or decrease in capacity is based upon the number of Spindles, Looms and Machines possessed at the time the plant was established, yet for definite comparison showing the increase or decrease not only in Machinery, but in number of employes, wages paid, and value of product, from a uniform fixed time, comparison is made in this analysis with the United States census report of 1890.

Number of Establishments.

While by this comparison the increase in capacity is shown to be large, yet there is a slight decrease in the number of establishments, the United States census report gives Pennsylvania credit with sixty-six silk manufacturing establishments in 1890, while this report gives it credit with but sixty-five for 1895.

Spindles.

By an examination of the tables it will be seen that Pennsylvania had in 1895, 129,152 Spindles for Winding and doubling; by the census report it had 89,429 in 1890, showing an increase of 39,723, or 44 per cent. Of Spindles, for Spinning and twisting, there were 390,451

in 1895, as against 228,786 in 1890, an increase of 161,665, or 70 per cent. Of Spindles for Braiding, there were 37,809 in 1895, as against 30,217 in 1890, an increase of 7,592, or 25 per cent., making the total number of Spindles, all kinds, in 1895, 557,412, as against 348,432 in 1890, an increase in 1895 over 1890 of 208,980 Spindles, or 59 per cent.

Hand Looms.

The census report of 1890 included Jacquard looms with Machines. In the tables herewith presented this error has been corrected, but to compare 1895 with 1890 it will be necessary to treat Jacquard looms as Jacquard machines. Pennsylvania had in 1895 but 61 Hand looms for Plain, broad goods, as against 60 in 1890, an increase of but one loom. For Narrow goods there were 94 in 1895 as against 163 in 1890, a decrease of 69. On the other hand there were in 1895, 150 Jacquard hand looms, while there were none reported in 1890. The total number of Hand looms, all kinds, in Pennsylvania in 1895, was 305, as against 223 reported in 1890, an increase of 82, or 36 per cent. It must not, however, be forgotten that in reaching these figures, 150 Jacquard looms are included that the census report of 1890 excluded from Looms, and placed with Machines. By the following census classification, Pennsylvania had only 155 Hand looms in 1895, as against 223 in 1890, a decrease of 68, or 30 per cent.

Power Looms.

The number of Power looms for Broad goods in 1895 was 3,445, as against 2,306 in 1890, an increase of 1,139, or 49 per cent. The number of Power looms for Ribbons in 1895 was 931, as against 451 in 1890, an increase of 480, or 106 per cent. The number of Power looms for Narrow goods in 1895 was 210, as against 603 in 1890, a decrease of 393. This decrease is believed to be caused on an erroneous report to the census department in 1890 of the number of Power looms for "Other narrow goods," looms for the manufacture of "Narrow cotton goods" having been reported with those for the manufacture of silk goods. Much difficulty was encountered in having this separation properly made for 1895.

This makes a total of 4,586 Power looms of the three grades reported by the census department, viz: "Broad goods, ribbons and other narrow goods," to which should be added 476 Looms for Plushes and velvets, making 5,062 Power looms in 1895, as against 3,360 in 1890, an increase of 1,702, or 50 per cent. This is exclusive of the Jacquard looms, which, as before stated, must be treated as Machines in order to compare with the census report of 1890.

Machines.

The number of Jacquard looms (or "machines," as classified by the census report), in Pennsylvania in 1895 was 1,256, as against 540 in 1890, an increase of 716, or 132 per cent. The number of Knitting machines in 1895 was 146, as against 20 in 1890, an increase of 126, or 630 per cent. There were 39 Lace machines in 1895, and none in 1890. There were 1,950 Braiding machines in 1895, and none in 1890. There were 145 Sewing machines in 1895 as against 100 in 1890, an increase of 45, or 45 per cent. The total number of Machines of all kinds in 1895 was 2,335, as against 660 in 1890, an increase of 1,675, or 253 per cent.

Persons Employed.

The total number of employes, skilled and unskilled, in 1895 was 13,815, as against 9,330 in 1890, an increase of 4,485. These employes were classified. Males over 16 in 1895, 3,853; males over 16 in 1890, 2,420; increase, 1,433. Females over 16 in 1895, 6,934, as against 5,617 in 1890, an increase of 1,317. Children in 1895, 3,028, as against 1,293 in 1890, an increase of 1,735. The number of weeks of employment was the same in 1895 as 1890, to wit, 48 weeks.

Wages Paid.

The aggregate amount of wages paid out in the manufacture of Silk in 1895, was $4,082,292.08, as against $2,725,285.00 paid out for the same class of labor in 1890, a per capita in 1895 of $295.50, as against $292.10 in 1890. This is exclusive of salary of clerks, salesmen or officers or members of the firm.

Value of Product.

The gross value of the product for 1895 was $24,184,583.84, as against $19,357,546.00 in 1890, an increase of $4,827,037.84, or 24.9 per cent.

The difficulty in reaching the value of the finished product is in the disposition of Thrown Silk, or Organzine and Tram. After a careful investigation, it has been found that $4,055,559.00 will practically cover the deduction that should be made for "goods twice counted," from the gross value for 1895 as computed by the bureau, all Commission Throwsters having been eliminated from value in

reaching the gross amount of $24,184,583.84. By "twice counted" means Organzine Tram, etc., not only counted at their value as Thrown Silks, but again included in the value of the finished product.

By making this deduction the net value of the finished product for 1895 is found to be $20,128,984.84 as against $11,404,223.00, the estimated net value of Pennsylvania's manufacture for 1890, by the census department.

For a better understanding of the meaning of "thrown silks, etc.," and "twice included," and to verify what has been said as to net value, the following extract from the census report of 1890 is given:

"Silk material is 'twice included' when it appears, first, as 'raw silk' in the returns of a 'throwster,' and, secondly, as 'thrown silk' or 'fringe silk' reported as raw material in the return of a weaver or fringe maker. The values of silk products thus twice included are deducted from the finished goods as shown by the returns. The reasons for this deduction are similar to those which apply to the values of the raw materials. While the gross value of the production amounts to $87,298,454, it covers only a real value of product amounting to $69,154,599. It should be noted that the products of partial manufacture go for the most part to be finished at points other than those where they originate. Hence, in many cases, the gross production of a state more nearly represents its industry than would the value of its finished goods. For instance, the gross production of Pennsylvania amounting to $19,357,546, is much nearer the total value of its silk manufactures than the sum of $11,404,223, the value of its completed goods, because a large portion of the throw silk produced in that state is not made into goods there, but goes elsewhere for manufacture.

"The reference to 'thrown silks' justifies some allusion to the throwing branch of the manufacture. Raw silk, as reeled from the cocoon, differs from the fibre or filament forming the material for other textiles in that, while it is necessary to spin the latter down to a thread of sufficient fineness to weave, it becomes necessary in the use of raw silk to twist or 'throw' together a number of the filaments sufficient to form a thread coarse enough to weave. Hence comes the word 'throwster,' an old English term by which those engaged in this preparatory process of the manufacture are designated, and warp and weft produced by them being known respectively as 'organzine,' and 'tram,' words derived from the French 'organzin,' meaning a double-twisted silk, and 'tram' meaning weft. In establishments exclusively engaged in this branch the work is generally done on commission for other establishments engaged in weaving, the latter furnishing the raw stock. The returns for 1890 show about forty-four establishments of this character, while, in

addition, many weaving concerns possess their own throwing plants."

Classified Values.

There was not that complete separation made in the returns to the bureau of the value of the diversified product to justify an effort at a detailed comparison with 1890, but sufficient separation has been made to warrant the statement that the value of Ribbons and Laces manufactured in 1895 was in round numbers $2,500,000, as against a value in 1890 of $1,195,231, or indicating an increase of over 100 per cent. The production in yards of Ribbons alone, was about $35,000,000. The separation of Dress Silks, and other Broad goods, was not clearly defined, but their combined value for 1895 was $7,147,103, as against a combined value in 1890 of $4,575,217, an increase of $2,571,886, or 56 per cent. The notable increase in the value of Ribbons is in keeping with the increased capacity of 106 per cent.

Enough has been shown to give assurance that with the return of prosperity Pennsylvania will be prepared to advance its already great Silk industry and make it one of the leading industries of the State.

Remarks by Manufacturers.

In response to the suggestion, "Anything you may be willing to add of interest, as showing the growth of your business, will be appreciated," Silk Manufacturers, as designated by their respective office number, made the following remarks:

No. 34. My business is not growing. My aim has been to make good goods and to establish a reputation. My goods are now well-known and the reputation is established, for there are no lack of commission houses soliciting my account. I have tried several of the latter, and also selling direct, but for all that, my business has not been permitted to grow. It is difficult to assign a reason. It can be said that the Silk business throughout the country has not been good in the last ten years. Too much competition, which appears to be growing keener year by year.

Too much political agitation and financial disturbances in the country have much to do with poor business.

Large concerns inform me that my plant is too small, and that is the reason that I cannot succeed, that is, the large output at the smallest profit, or margin, now does the business.

But when a large plant is struck with dull times, which is often

the case, then it is acknowledged that the small plant is the best off.

Too many goods are manufactured recklessly, without any certain knowledge that they can be sold, and which are afterwards thrown into the auction room, and thus demoralizing prices for the rest of the manufacturers.

The latter remark applies more to dress goods than linings; but there is a much more limited demand for linings and it is necessary to make some dress goods to keep the hands employed.

No. 53. Business fell off in 1895; was not as good as in 1894. Making only a fine class of goods, sales were limited, whereas cheap goods were sold largely.

No. 10. There has been a steady decline in the business for the past three years; which we attribute more to the vagaries of fashion than to any other cause.

No. 7. This establishment was started in 1852 and continuously operated until 1894, when reorganized as a stock company and incorporated in this State (removed from New York city). Our object being to instruct the native help and absolutely be free from the annoyances of organized labor organizations of the larger cities.

In 1894 we commenced the erection of our plant in Pennsylvania, and during August, 1894, started the first loom with absolutely none but novices, as we brought but one man with us who had any acquaintance with the business. We now have twenty-three looms in operation. Up to the present time, we have succeeded in instructing upward of ninety people who never saw any other machinery than a sewing or mowing machine until now. I can state with no fear of contradiction that we can produce as good a woven fabric as anywhere in the country.

No. 63. We run full time, but only one-half of our capacity during the whole year of 1895. We are still suffering from the business depression, and do not expect any revival until the finances of the country are put on a sound basis.

No. 49. During the first two months and the last three months of the year 1895, this mill was run on greatly reduced production, due to general depression in business.

No. 60. The growth of our business is due largely to our personal supervision over all details and the application of original thought thereto. Fair, honest dealing, well directed energy and an untiring devotion to the best interests of the business are elements that rarely fail of success.

No. 15. Our greatest growth was made during the operation of the McKinley bill, since the abolishing of which much of our ma-

chinery has been idle. While the manufacture of dress trimmings is much subject to fashion, yet much could be made here that now is imported, if we had the necessary protection. Goods requiring much personal labor cannot be competed with against foreign production, the German manufacturer especially.

STRIKES AND LOCKOUTS.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Numbe of per sons no engage but in volve in strike
				Number involved.	Days closed.		
Coal mining.	Watson, ...	Against a reduction of wages.	Yes	1	3	150	.....
Carpet weavers, ...	Philadelphia, ...	For an increase of wages.	Yes	1	None	150	1
Coal mining, ...	Charleroi, ...	Against a reduction of wages.	Yes	1	4	125	
Coal mining, ...	Wilkes-Barre, Prospect Colliery.	Misunderstanding as to method of keeping time.	No	1	4	30	7
Coal mining, ...	Wilkes-B're, Franklin Colliery.	Misunderstanding as to method of keeping time.	No	1	3	30	.....
Coal mining.	Jefferson twp., ...	For an increase of wages.	Yes	1	30	400	
Coal mining, ...	Camden station,...	For an increase of wages.	Yes	1	10	160	.....
Coal mining.	Mifflin township,...	For an increase of wages.	Yes	1	18	60	
Coal mining, ...	Camden.	For an increase of wages.	Yes	1	12	300	
Coal mining, ...	Washington Co., ..	For an increase of wages.	Yes	1	12	250	.....
Coal mining, ...	West Newton, ...	For an increase of wages.	Yes	1	72	250	
Coal mining, ...	McDonald, ...	For an increase of wages.	Yes Partly	1	90	140	
Coal mining, ...	McDonald.	For an increase of wages.	Yes Partly	1	90	150	
Coal mining, ...	Allequippa Mine,..	For an increase of wages.	Yes	1	7	250	.....
Coal mining.	Fayette City, ...	Against a reduction of wages.	No	1	7	125	
Coal mining, ...	Dunlevy station,...	Against a reduction of wages.	No	1	8	160	
Coal mining.	Shire Oaks.	For an increase of wages.	No	1	3	300	
Coal mining.	Noblestown.	For an increase of wages.	Yes	1	72	150	.....

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers loss.
ec. 31, 1894.	Jan. 3, 1895.	3	No	Reduction accepted,	$900	$165
an. 24, 1895.	Feb. 25, 1895.	.....	No	Resumed at former wages,	10,000	5,000
an. 26, 1895.	Jan. 29, 1895.	3	No	.....	872	*
an. 31, 1895.	Feb. 4, 1895.	4	No	Matters satisfactorily explained and work resumed without any change in method.	4,500	Nothing, at present price of coal.
eb. 10, 1895.	Feb. 13, 1895.	3	No	Matters satisfactorily explained and work resumed without any change in method.	*	*
eb. 10, 1895.	Mar. 10, 1895.	30	Yes	Wages increased from 2 1-4 to 2 5-8 cts. per bushel.	16,000	*
ar. 1, 1895.	Mar. 12, 1895.	11	No	Resumed at former prices.	3,500	900
ar. 1, 1895.	Mar. 18, 1895.	18	Yes	Price increased 3-8 c per bu.	900	500
ar. 1, 1895.	Mar. 12, 1895.	12	Yes	Price increased 9 c. per ton.	7,000	1,000
ar. 1, 1895.	Mar. 12, 1895.	12	Yes	.....	6,000	500
ar. 1, 1895.	May 24, 1895.	72	No	Nothing gained, ...	*	*
ar. 3, 1895.	June 3, 1895.	90	.....	Compromised at 5 c. per ton advance.	11,000	1,500
ar. 3, 1895.	June 3, 1895.	90	.....	Compromised at 5 c. per ton advance.	18,000	2,000
ar. 4, 1895.	Mar. 12, 1895.	9	Yes	Demands complied with,	3,475	308
ar. 5, 1895.	Mar. 12, 1895.	7	Yes	Former wages restored,	1,800	175 and profit on 87,500 bus.
ar. 5, 1895.	Mar. 15, 1895.	10	.....	Miners accepted the reduction, but in two weeks former wages restored.	2,400	600
ar. 6, 1895.	Mar. 9, 1895.	3	Yes	Demands complied with,	780	110
ar. 6, 1895.	May 28, 1895.	72	No	.....	10,000	1,500

*Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Number of persons not engaged but involved in strikes
				Number involved.	Days closed.		
Coal mining, ...	Osceola, ...	Against a reduction of wages.	Yes	1	78	125	.....
Coal mining, ...	Imperial, ...	For an increase of wages.	Yes	1	90	125	1
Coal mining, ...	Bishop, ...	For an increase of wages.	Yes	1	98	275	10
Coal mining, ...	Fitzhenry, ...	For an increase of wages.	Yes	1	70	50	.....
Coal mining, ...	Shepler station, ...	For an increase of wages.	Yes	1	62	125	.....
Coal mining, ...	Guffey station, ...	For an increase of wages.	Yes	1	72	175	[illegible]
Coal mining, ...	Allen Mine, Washington county.	For an increase of wages.	.....	1	47	75	[illegible]
Coal mining, ...	Lucyville, ...	For an increase of wages.	Yes	1	60	70	[illegible]
Coal mining, ...	Scott Haven, ...	For an increase of wages.	Yes	1	72	275	[illegible]
Coal mining, ...	Blythedale, ...	For an increase of wages.	Yes	1	72	175	
Coal mining, ...	Stockdale, ...	For an increase of wages.	.....	1	40	108	
Coal mining, ...	Woodville, ...	For an increase of wages.	Yes	1	70	275	.....
Coal mining, ...	Cecil, ...	For an increase of wages.	Yes	1	72	125	1
Coal mining, ...	Banning	For an increase of wages.	Yes	1	60	135	
Coal mining, ...	Oakdale station....	For an increase of wages.	Yes	1	68	85	
Coal mining, ...	Heckman station...	For an increase of wages.	Yes	1	72	150	
Coal mining, ...	Manown.	For an increase of wages.	Yes	1	21	145	
Coal mining.	Moon Run.	For an increase of wages.	Yes	1	86	400	
Coal mining.	Joint, Allegheny county.	For an increase of wages.	Yes	1	81	175	
Coal mining, ...	Finleyville.	For an increase of wages.	Yes	1	60	600	.....

STRIKES AND LOCKOUTS—Continued.

eginning of strike.	End of strike	Duration of strike—days	Successful or not	How settled, and what accomplished	Employes' loss	Employers' loss
ar. 6, 1895.	May 23, 1895,	78	No	.....	$10,000	$2,000
ar. 6, 1895,	June 10, 1895,	90	No	.....	*	
ar. 6, 1895,	June 28, 1895,	98	.....	A compromise of 5 c. per ton advance.	19,680	2,000
ar. 6, 1895,	May 15, 1895,	60	.....	An increase of 4 c. per ton allowed.	5,000	*
ar. 6, 1895,	May 16, 1895,	62	.....	Resumed at 60 c. per ton,..	12,000	5,000
ar. 6, 1895,	May 28, 1895,	72	No	.....	20,000	2,500
ar. 6, 1895,	May 2, 1895,	47	No	Resumed at same wages,..	7,000	2,000
ar. 6, 1895,	May 7, 1895,	60	No	Resumed at same wages,...	6,500	2,000
ar. 6, 1895,	May 28, 1895,	72	No	Resumed at same wages....	30,000	5,000
ar. 6, 1895,	May 28, 1895,	72	No	Resumed at same wages,...	21,000	3,000
ar. 6, 1895,	Apr. 23, 1895,	40	No	Resumed at same wages....	7,000	2,000
ar. 6, 1895,	May 27, 1895,	70	No	Resumed at same wages,...	35,000	1,500
ar. 6, 1895,	June 4, 1895,	72	No	Resumed at same wages,...	*	*
ar. 7, 1895.	May 18, 1895,	60	Partially	Demanded 52 c. per ton; resumed at 46 c. per ton.	12,000	1,000
ar. 7, 1895.	May 27, 1895,	68	No	Resumed at former wages,	8,000	1,000
ar. 7, 1895.	June 1, 1895,	72	No	Some received an advance of 5 c. per ton, others resumed work at former prices.	1,500	1,000
ar. 7, 1895.	Mar. 28, 1895,	21	Partially	Resumed at prices offered,.	6,615	*
ar. 7, 1895.	June 1 1895,	86	No	Resumed at former wages..	40,000	10,000
ar. 7, 1895.	May 27, 1895,	81	No	.....	21,000	*
ar. 7, 1895.	May 16, 1895,	60	No	.....	*	*

* Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Number of persons not engaged but involved in strikes.
				Number involved.	Days closed.		
Coal mining, ...	Near Woodville, ...	For an increase of wages.	Yes	1	65	200	1
Coal mining, ...	Van Meter, ...	For an increase of wages.	Yes	1	54	275	2
Coal mining, ...	Venetia, ...	For an increase of wages.	Yes	1	57	75	1
Coal mining, ...	Willow Grove, ...	For an increase of wages.	Yes	1	45	20	[illegible]
Coal mining, ...	Gladden, ...	For an increase of wages.	Yes	1	82	200	.....
Coal mining, ...	Eureka, ...	For an increase of wages.	Yes	1	57	175	10
Coal mining, ...	Carnegie, ...	For an increase of wages.	Yes	1	80	125	125
Coal mining, ...	Belle Vernon, ...	For an increase of wages.	Yes	1	14	130	25
Coal mining, ...	Sunny Side, ...	For an increase of wages.	Yes	1	12	100	.....
Coal mining, ...	Brownsville, ...	Fifteen men demanded the discharge of a fellow workman.	No	1	1	15	146
Coal mining, ...	Anderson station,..	For an increase of wages.	Yes	1	60	110	12
Coal mining, ...	Hastings station,..	For an increase of wages.	†	1	70	105	15
Coal mining, ...	Buena Vista, ...	For an increase of wages.	Yes	1	72	200	12
Coal mining, ...	Hackett, ...	Against a reduction of wages.	Yes	1	30	225	None
Coal mining, ...	Turn Rocks, ...	For an increase of wages and the use of machines.	No	1	5	20	30
Cotton and silk goods mfrs.	Chester, ...	For an increase of wages.	Yes	1	18	188	180
Cotton and woolen mfrs.	Lenni, ...	For restoration of 10 per cent. wages.	No	1	10½	100	.....
Electric street railway.	Carbondale, ...	Against discharge of three men.	Yes	1	.....	30	None
Coal mining, ...	Dilwarth Mine, ...	Against a reduction of wages.	Yes	1	42	50	48

† By a joint action of union and non-union delegates in a convention.

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers' loss.
Mar. 7, 1895,	May 23, 1895,	65	No	Nothing gained, ...	$20,000	$5,000
Mar. 7, 1895,	May 20, 1895,	54	No	Nothing gained, ...	20,000	2,000
Mar. 7, 1895,	May 14, 1895,	57	Partially	Resumed at prices offered,.	*	*
Mar. 7, 1895,	May 25, 1895,	45	Partially	Resumed at 60 c. per ton,..	1,000	None
Mar. 7, 1895,	May 28, 1895,	82	No	Nothing gained, ...	17,000	*
Mar. 8, 1895,	May 15, 1895,	57	Partially	Resumed at 46 c. per ton,..	13,000	3,000
Mar. 9, 1895,	May 28, 1895,	80	No	Nothing gained, ...	*	*
Mar. 9, 1895,	Mar. 24, 1895,	14	No	Nothing gained, ...	*	*
Mar. 10, 1895,	Mar. 25 1895,	12	Yes	Received an increase of 14 c. per ton.	1,500	150
Mar. 14, 1895,	Mar. 16, 1895,	3	No	.....	722	9,950
Mar. 15, 1895,	May 15, 1895,	60	No	Returned for less wages,...	10,980	2,750
Mar. 26, 1895,	May 27, 1895,	70	No	Nothing gained, ...	10,000	4,000
Mar. 6, 1895,	May 27, 1895,	68	No	Resumed at former wages,.	31,500	*
Apr. 1, 1895,	May 1, 1895,	30	No	Nothing gained, ...	5,000	2,000
Apr. 1, 1895,	Apr 6, 1895,	5	Partially	Compromised at one-half, and machines to be used.	400	50
Apr. 4, 1895,	Apr. 27, 1895,	18	No	Nothing gained, ...	8,112	6,000
Apr. 9, 1895,	Apr. 22, 1895,	10½	No	Nothing gained, ...	1,500	*
Apr. 11, 1895,	Apr. 19, 1895,	Part of 8 days	No	.....	340	2,400
Apr. 15, 1895,	June 1, 1895,	42	No	Nothing gained, ...	2,500	2,000

*Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Number of persons not engaged but involved in strikes.
				Number involved.	Days closed.		
Coal mining, ...	Borland, ...	For an increase of wages.	Yes	1	40	175	.....
Bessemer pig iron mfrs.	New Castle, ...	For an increase of wages.	Yes	1	9	105	.....
Blast furnace, ...	New Castle, ...	For an increase of wages.	No	1	9	120	.....
Blast furnace, ...	New Castle, ...	For an increase of wages.	Yes	1	8	100	20
Coal mining, ...	Essen, ...	Against a reduction of wages.	Yes	1	25	225	30
Coal mining, ...	Union township, ..	Against a reduction of wages.	Yes; indirectly	1	18	98	.....
Coal mining, ...	Morgan Mine, Allegheny county.	Against a reduction of wages.	Yes	1	26	225	.....
Coal mining, ...	Cincinnati Mine, Washington Co.	Against dockage (dirty coal).	No	1	6	175	21
Iron and steel works.	Pittsburgh, ...	For an increase of wages.	No	1	1	54	250
Coal mining, ...	Jacob's Creek, ...	On account of rate of wages.	Yes	1	40	200	59
Coal mining, ...	Sygan station, ...	Against a reduction of wages.	Yes	1	19	100	12
Woolen manufacturing.	Norristown, ...	For restoration of former rate of wages.	No	1	26	90	125
Blast furnace, ...	Sharpsville, ...	For an increase of wages.	No	1	3	85	5
Pig iron mfrs.....	Sharpsville, ...	For an increase of wages.	Yes	1	5	125	.....
Blast furnace, ...	Sharpsville, ...	For an increase of wages.	No	1	2	135	5
Hosiery mfrs., ...	Norristown, ...	For an increase of wages.	No	1	None	50	.....
Woolen and worsted yarns and cloth	Bridgeport, ...	Adjustment of wages.	No	1	4	50	650
Cotton and woolen mfrs.	Philadelphia, ...	For an increase of wages.	No	1	8	175	12

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers' loss.
Apr. 21, 1895.	June 1, 1895.	40	Partially	Received an increase of 5 c. per ton.	$8,900	$1,750
Apr. 23, 1895.	May 2, 1895.	9	Partially	Compromised at 6 per cent. of what was asked.	1,500	3,500
Apr. 23, 1895.	May 2, 1895.	9	Partially	Men received 15 per cent. advance; asked 25 per ct.	1,600	2,000
Apr. 23, 1895.	May 2, 1895, 6 a. m.	8	Partially	Men received 15 per cent. advance; asked 25 per ct.	1,400	1,000
Apr. 25, 1895.	May 20, 1895.	25	No	Nothing accomplished.....	2,737	*
Apr 30, 1895.	May 18, 1895.	18	No	Nothing accomplished.	3,600	800
May 1, 1895.	May 31, 1895.	26	Partially	Wages reduced 14 c. per ton; house rent reduced one-half; company store closed.	7,500	3,000
May 1, 1895.	May 7, 1895.	6	No	Resumed work with the understanding that clean coal is demanded.	1,400	None
May 1, 1895.	May 3, 1895.	1	Yes	Wages advanced 10 per ct.	230	None
May 3, 1895.	July 1, 1895.	40	No	Nothing gained.	13,540	25,000
May 6, 1895.	May 27, 1895.	19	No	.....	2,850	400
May 6, 1895.	May 31, 1895.	26	Partially	Compromised by increasing rate on certain goods.	5,250	None
May 6, 1895.	May 9, 1895.	3	Yes	Wages increased 25 c. per day.	*	*
May 6, 1895.	May 10, 1895.	5	Yes	Wages demanded were granted.	800	1,600
May 7, 1895.	May 9, 1895.	2	Yes	Wages demanded were granted.	300	*
May 8, 1895	May 16, 1895.	7	No	Resumed at former wages..	500	125
May 9, 1895.	May 14, 1895.	4	No	Adjustment of wages not satisfactory to a portion of the employes, who afterward resumed work at former wages.	1,500	2,500
May 11, 1895.	May 20, 1895.	8	No	Resumed by accepting wages offered.	*	*

*Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Numb of pe sons n engag but i volve in strike
				Number involved.	Days closed.		
Mining coal, ...	Beechwood, ...	Uniformity in prices.	Yes	1	10	85	
Mining coal, ...	Banksville, ...	For an increase of wages.	Yes	1	10	150	
Brickmaking, ...	Reading, ...	For an increase of wages.	No	1	None	175	.....
Coal mining, ...	Brownsville, ...	Against a reduction of wages.	Not directly	1	60	115	
Worsted and woolen goods.	Chester, ...	For an increase of wages.	No	1	6	73	
Coal mining.	Shire Oaks, ...	Against a reduction of wages.	No	1	14	100	
Worsted, woolen & cotton goods.	Philadelphia, ...	For an increase of wages.	.....	1	10	110	
Boiler making, ...	Pittsburg, ...	For an increase of wages.	Yes	1	2	46	No
Boiler making, ...	Pittsburg, ...	For an increase of wages.	Yes	1	2	25	.....
Carpet weaving, ...	Philadelphia, ...	For an increase of wages.	Yes	1	.....	16	
Boiler making, ...	Pittsburg, ...	For an increase of wages.	Yes	1	2	400	.....
Boiler making, ...	Pittsburg, ...	For restoration of former rate of wages.	Yes	1	5	20	
Cigar making, ...	McSherrytown, ...	Against a reduction of wages.	Yes	1	None	40	.....
Cigar making, ...	Perkasie, ...	Dispute as to how work should be done.	Not known	1	None	107	
Iron works, ...	Sharon, ...	For an increase of wages.	No	1	13	150	
Boiler making, ...	Allegheny City, ...	For an increase of wages.	Yes	1	2	30	No
Carpet weaving, ...	Philadelphia, ...	For an increase of wages.	Yes	1	5	13	
Boiler making, ...	Pittsburg, ...	For an increase of wages.	Yes	1	4	50	.....

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers' loss.
May 17, 1895,	May 27, 1895,	10	No	Nothing gained, ...	$2,000	Nothing
May 18, 1895,	May 28, 1895,	10	No	Nothing gained, ...	4,000	$400
May 20, 1895,	May 31, 1895,	9	No	Nothing gained, ...	1,770	None
May 20, 1895,	July 12, 1895,	60	No	.....	5,000	1,000
June 1, 1895,	June 8, 1895,	6	Yes	Compromised by accepting 8 per cent. advance; asked 20 per cent.	1,494	1,500
June 4, 1895,	June 18, 1895,	14	No	Nothing gained, ...	3,640	500
June 6, 1895,	July 6, 1895,	25	No	Nothing gained, ...	6,500	300
June 10, 1895,	June 12, 1895,	2	Yes	Demands complied with,...	200	50
June 11, 1895	June 13, 1895,	2	Yes	Demands complied with, ...	50	50
June 11, 1895,	Aug. 26, 1895,	65	Yes	.....	1,200	Nothing
June 11, 1895,	June 12, 1895,	2	Yes	Ten per cent. increase granted.	800	*
June 11, 1895,	June 17, 1895,	5	Partially	Wages restored to those that were not advanced in May last. Four others demanded an additional 10 per cent., being refused, they quit work.	280	1,25
June 16, 1895,	.....	.....	No	Filled union men's places with non-union workers.	*	Nothing
June 17, 1895,	July 19, 1895,	27	No	Nothing gained, ...	4,000	Nothing
June 24, 1895,	July 8, 1895,	13	Partially	Men to receive 10 per cent. increase Aug. 1, 1895.	15,000	*
June 25, 1895,	June 26 1895,	2	Yes	Received 10 per cent. increase in wages.	99	197
June 29, 1895,	July 5, 1895,	5	Yes	Wages advanced,.....	175	100
.....	.....	.....	Yes	Wages advanced,.....	Don't know	100

*Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Numb of pe sons n engag but in volve in strike
				Number involved.	Days closed.		
Coal mining, ...	Brownsville, ...	Against a reduction of wages.	Indirectly	1	60	125	
Cooking utensils mfg.	Marietta, ...	For an increase of wages.	No	1	10	26	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	40	160	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	41	56	
Carpet weaving,....	Philadelphia, ...	Against a reduction of wages.	Yes	1	41	56	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	36	33	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	43	78	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Not known	1	24	18	Non
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	.....	1	44	46	
Carpet weaving,....	Philadelphia, ...	For an increase of of wages.	Yes	1	10	24	
Carpet weaving,....	Philadelphia, ...	For an increase of wages	Presumably so	1	44	48	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	35	81	1
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	No	1	43	160	1
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	42	100	7
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	48	23	2
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	8	29	1
Carpet weaving,....	Philadelphia, ...	For restoration of former rate of wages.	Yes	1	38	150	Non

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers loss
July 1, 1895,	Sept. 1, 1895,	60	Partially	When strike terminated water in river was too low to do shipping. Very little work done till December, 1895.	$8,000	$2,000
July 9, 1895,	July 19, 1895,	10	No	.....	1,400	1,500
July 9, 1895,	Aug. 26, 1895,	40	Yes	.....	25,000	*
July 10, 1895,	Aug. 20, 1895,	41	Yes	Wages increased 8 to 10 per cent.	1,000	*
July 10, 1895,	Aug. 26, 1895,	41	Yes	Strikers were successful; but others were discharged for participation without justification.	5,000	2,000
July 10, 1895,	Aug. 21, 1895,	36	Partially	Compromised, ...	6,000	700
July 10, 1895,	Aug. 29, 1895,	43	Yes	Wages increased 7½ per cent.	8,750	*
July 10, 1895,	.....	.....	Partially	.....	700	*
July 10, 1895,	Aug. 23, 1895,	44	Yes	Demands complied with, ..	*	*
July 10, 1895,	July 20, 1895,	10	Yes	Wages increased 6 per cent.	*	*
July 10, 1895,	Aug. 23, 1895,	44	Yes	Demands complied with, ...	3,600	*
July 10, 1895,	Aug. 19 1895,	35	Partially	Resumed work at former wages until Sept. 16, when an advance of 5 per cent. was promised They asking 10 per cent.	6,000	1,000
July 10, 1895,	Aug. 22, 1895.	43	Partially	Increase to take effect Sept. 16, 1895.	16,000	*
July 10, 1895,	Aug. 27, 1895,	42	Yes	Wages increased 7½ per cent.	14,000	*
July 10, 1895,	Aug. 22, 1895,	43	Partially	Increase to take effect Sept. 16, 1895.	2,000	500
July 10, 1895,	July 18, 1895,	8	Yes	Increase to take effect Sept. 16, 1895.	600	100
July 10, 1895,	Aug. 17, 1895,	38	Yes	Demands complied with, ..	9,000	1,500

*Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments,		Number of persons engaged in strikes.	Numb of per sons n engage but in volve in strike
				Number involved.	Days closed.		
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	49	120	1
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	36	89	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	43	95	1
Carpet weaving, ...	Philadelphia, ...	For an increase of wages.	Yes	1	35	50	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	None	30	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	18	25	
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	10	55	4
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	37	53	1
Carpet weaving,....	Philadelphia, ...	For an increase of wages	Yes	1	.....	75	
Carpet weaving,....	Philadelphia, ...	For a new schedule of wages.	Yes	1	38	128	15
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	44	71	3
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	39	45	2
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	42	140	50
Coal mining, ...	Cliff Mine, Shire Oaks.	Against a reduction of wages.	No	1	11	120	30
Coal mining, ...	Coal Bluff Mine, Shire Oaks.	Against a reduction of wages.	No	1	11	120	30
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Not known	1	12	77	.....
Carpet weaving,....	Philadelphia, ...	For an increase of wages.	Yes	1	None	63	52

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers' loss.
July 10, 1895,	Aug. 28, 1895,	49	Yes	Wages increased as aske for.	$18,000	
July 10, 1895,	Aug. 14, 1895,	36	Yes	Increase to take effect Sept. 16, 1895.	12 000	$5,000
July 10, 1895,	Aug. 22, 1895,	43	Partially	Increase to take effect Sept. 16, 1895.	9,000	50,000 including sales.
July 10, 1895,	Aug. 20, 1895,	35	Yes	Wages increased 10 per cent.	3,500	1,500
July 10, 1895,	Aug. 22, 1895,	37	Yes	Wages increased about 1½ per cent.	2,200	600
July 10, 1895,	Aug. 20, 1895,	36	Yes	Demands complied with,....	1,200	None
July 10, 1895,	July 20, 1895,	10	Yes	Wages increased 10 per cent.	1,200	4 000
July 10, 1895,	Aug. 17, 1895,	37	Partially	Increase to take effect Sept. 16, 1895.	4,320	*
July 11, 1895,	Aug. 15, 1895,	30	Partially	Wages advanced on certain grades work, and reduced on others, making the aggregate the same as before the strike.	*	*
July 11, 1895,	Aug. 26, 1895,	38	Partially	New schedule to go into effect Sept. 16, 1895, provided the strikers would resume work immediately.	15,000	*
July 11, 1895,	Aug. 23, 1895,	44	Yes	New schedule took effect when work was resumed.	2,000	*
July 11, 1895,	Aug. 26, 1895,	39	Yes	Wages increased 10 per cent.	1,600	400
July 11, 1895,	Aug. 22, 1895,	42	Partially	Result of strike, a uniform wage scale among the manufacturers in Philadelphia.	7,200	*
July 11, 1895,	July 22, 1895,	11	No	.....	2,200	850
July 11, 1895,	July 23, 1895,	11	No	.....	2,200	850
July 11, 1895,	July 24, 1895,	12	Yes	Wages increased 10 per cent.	1,400	500
July 11, 1895,	Aug. 24, 1895,	40	Yes	Demands complied with, ..	8,313	1,000

*Not estimated

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Number of persons not engaged but involved in strikes.
				Number involved.	Days closed.		
Carpet weaving,	Philadelphia,	For an increase of wages.	Yes	1	38	125	110
Carpet weaving,	Philadelphia,	For an increase of wages and recognition of organization.	Yes	1	13	100	250
Carpet weaving,	Philadelphia,	For an increase of wages.	Yes	1	37	92	75
Cigar mfs.,	McSherrytown,	Recognition of organization.	Yes	1	2	300	75
Coal mining,	Banner Mine, Shire Oaks.	For an increase of wages.	No	1	14	100	30
Cotton worsteds & jeans mfg.	Gulf Mills, Montgomery county.	For an increase of wages.	No	1	9	70	70
Woolen and worsted mfg.	Philadelphia,	For an increase of wages on a certain class of goods.	Not known	1	14	50	100
Upholstery goods mfg.	Philadelphia,	Against a reduction of wages.	No	1	None	20 girls	None
Coal mining,	Cranberry Mine, Hazleton	For less hours to a day.	Not known	1	None	19	None
Upholstery goods mfg.	Philadelphia,	Against a reduction of wages.	No	1	5	120	80
Cabinet making,	Philadelphia	For an increase of wages.	Yes	1	2	25	35
Drivers of milk wagons.	Philadelphia,	Against discharge of employe.	Yes	1	None	20	None
Woolen mfrs.,	Chester	For an increase of wages.	Yes	1	36	33	69
Cloaks and suits mfrs.	Philadelphia,	Against the discharge of an employe.	Yes	1	None	25	25
Foundry and machine works.	Leechburg,	For an increase of wages.	Not known	1	2	36	20
Cloth weaving,	Philadelphia,	For an increase of wages.	‡	1	None	150	275
Woolen and worsted mfrs.	Philadelphia,	Question of wages.	Yes	1	24	18	600

‡ That is the supposition.

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End f strike.	Duration of strike—days.	Success ful or not.	How settled, and what accomplished	Employes loss	Employers loss
July 12, 1895,	Aug. 26, 1895,	38	Partially	Slight increase of wages and a uniform schedule of prices.	$12,000	*
July 12, 1895,	Aug. 22, 1895,	13	Partially	Wages increased in part; recognition of organization refused	10,000	*
July 17, 1895,	Aug. 23, 1895,	37	Yes	Wages increased 7½ per cent. Sept. 16, 1895.	10,000	None
July 20, 1895,	July 22, 1895,	2	No	.....	700	None
Aug. 1, 1895,	Oct. 18, 1895.	62	Partially	Men demanded 69 c.; compromised at 64 c. per bu.	20,280	$2,800
Aug. 2, 1895,	Aug 14, 1895,	12	No	Nothing gained.	1,200	500
Aug. 7, 1895,	Aug. 21. 1895.	14	Yes	Demands complied with, ...	*	*
Aug 8, 1895,	Aug 12 1895,	4	No	.....	No loss	None
Aug 13, 1895,	.....	.....	No	.....	*	*
Aug. 13, 1895,	Aug 17, 1895,	.....	No	.....	1,500	*
Aug 26, 1895,	Aug 28, 1895.	2	No	Nothing gained.	125	*
Aug. 31, 1895,	Aug. 31, 1895,	Part of a day	No	Nothing gained, ...	*	500
Sept 4, 1895,	Oct 15, 1895	36	No	Nothing gained, ...	4,585	1,228
Sept 5, 1895,	Sept. 30, 1895,	20	No	The strikers gradually returned to work, with the exception of a few that would not be taken back.	1,000	1,500
Sept. 10, 1895.	Sept. 12, 1895.	2	Partially	Increase of wages to take effect Oct., 1895; men asked to have it immediately.	200	*
Sept. 19, 1895.	Sept. 25, 1895.	6	Partially	Wages increased about 5 per cent.	1,000	*
Sept. 19, 1895	Oct. 16, 1895.	24	No	Nothing gained, ...	13,000	None

* Not estimated.

STRIKES AND LOCKOUTS—Continued.

Industries.	Locality.	Cause or object.	Ordered by a labor organization.	Establishments.		Number of persons engaged in strikes.	Number of persons not engaged but involved in strikes.
				Number involved.	Days closed.		
Chenille weaving, ...	Philadelphia, ...	For an increase of wages.	No	1	14	121	48
Worsted goods mfrs.	Philadelphia, ...	For an increase of wages.	Not known	1	16	52	30
Shoe mfrs., ...	Harrisburg, ...	For an increase of wages.	Not known	1	None	15	None
Hosiery mfrs., ...	Philadelphia, ...	For an increase of wages.	No	1	10	30	30
Hosiery mfrs., ...	Newville, ...	Dissatisfied with foreman.	No	1	3	11	109
Chenille and upholstery goods mfr.	Philadelphia, ...	For an increase of wages.	No	1	.....	19	82
Coal mining, ...	Hilldale, ...	For an increase of wages.	Yes	1	4	150	22

STRIKES AND LOCKOUTS—Continued.

Beginning of strike.	End of strike.	Duration of strike—days.	Successful or not.	How settled, and what accomplished.	Employes' loss.	Employers' loss
Sept. 20, 1895,	Oct. 29, 1895,	34	No	Nothing gained, ...	$26,025	$7,500
Oct. 2, 1895,	Oct. 25, 1895,	20	Partially	Ten per cent. increase on a certain class of goods.	1,900	2,100
Oct. 7, 1895,	Oct. 14, 1895,	6	No	Resumed at former wages,	180	None
Oct. 9, 1895,	Oct. 21 1895,	10	Partially	One-half of increase asked for allowed.	400	100
Oct. 16, 1895,	Oct. 19, 1895,	3	No	Foreman retained, ...	140	50
Oct. 21, 1895,	Oct. 29, 1895,	7	No	Nothing gained	1,400	5,000
Nov. 24, 1895,	Nov. 28, 1895,	4	Yes	Wages increased 10 c. per ton.	1,500	100

In presenting the table of strikes for the year 1895, it has been deemed proper to make the number of strikes to equal the number of establishments involved. For instance, where a strike occurred affecting, say, five establishments in the same or adjacent territory, the strike, although but one in fact is counted as five, to equal the number of establishments. The converse of this manner of arranging the tables has also been observed. That is, where one establishment has had three strikes during the year, although but one establishment in fact, yet it is counted as three establishments. By this process it will be seen that the number of strikes equals the number of establishments, and for some purposes the word strike and the word establishment may be considered as convertible terms.

A strike is a quitting of work, especially by a body of laborers, for the purpose of compelling their employer or employers to comply with some demand or condition, as for increase or against a reduction of wages. During the year 1895, 151 strikes occurred in the State of Pennsylvania that have come to the knowledge of this bureau, but it is probable that others occurred from which no reports were received. One hundred and nine of these were inaugurated "for an increase of wages," nineteen "against a reduction of wages," and the remainder for the various reasons given in the general table.

The following table shows the nature of the industry at which strikes occurred and the number of strikes to each industry:

Coal mining,	70
Carpet weaving,	36
Boiler making,	6
Blast furnace,	4
Pig iron manufacturing,	2
Hosiery manufacturing,	3
Woolen and worsted goods manufacturing,	4
Cigar making,	3
Woolen goods manufacture,	2
Cotton and woolen manufacturing,	2
Upholstery manufacturing,	2
Iron and steel manufacturing,	1
Foundry and machine works,	1
Electric street railway,	1
Iron works,	1
Cotton and worsted and jeans manufacture,	1
Cotton and silk goods manufacturing,	1
Cabinet making,	1
Worsted, woolen and cotton goods manufacturing,	1
Cloaks and suits manufacturing,	1
Cloth weaving,	1

Chenille weaving,	1
Worsted goods manufacturing,	1
Chenille and upholstering manufacturing,	1
Cooking utensils manufacturing,	1
Brick making,	1
Shoe manufacturing,	1
Drivers of milk wagons,	1

Out of the 151 strikes 98, or 64.9 per cent., were ordered by labor organizations, 33, or 21.8 per cent., were not ordered by labor organizations; 3 resulted indirectly from labor organizations. In two cases it was presumed that they were ordered by labor organizations. In eight cases it was not known whether or not they were so ordered; of four no report was made in answer to this question and three are reported "partly."

Of the 151 establishments where strikes occurred 134, of 88.7 per cent., were closed for longer or shorter periods of time; 13, or 8.6 per cent., were not closed at all during the strikes, and as to the other 5 no information was received on this point.

There were 17,113 persons actually engaged in the 151 strikes. The following table shows the nature of the industries in which strikes occurred, the number of strikes to each industry and the number of persons engaged in each strike:

Nature of industry	Number of strikes.	Number of persons engaged.
Coal mining,	70	10,805
Carpet weaving,	36	2,524
Boiler making,	6	571
Blast furnace,	4	440
Pig iron,	2	230
Hosiery,	3	91
Woolen and worsted goods manufacturing,	4	191
Cigar manufacturing,	3	447
Woolen goods manufacturing,	2	123
Cotton and woolen goods,	2	275
Upholstery manufacturing,	2	140
Iron and steel works,	1	64
Foundry and machine works,	1	36
Electric street railways,	1	30
Iron works,	1	150
Cotton and worsted and jeans manufacturing,	1	70
Cotton and silk goods manufacturing,	1	188
Cabinet making,	1	25
Worsted, woolen and cotton goods manufacturing,	1	110
Cloaks and suits manufacturing,	1	25

Cloth weaving,	1	150
Chenille weaving,	1	121
Worsted goods manufacturing,	1	26
Chenille and upholstering manufacturing,	1	52
Cooking utensils,	1	19
Brick making,	1	175
Shoe manufacturing,	1	15
Drivers of milk wagons,	1	20

In 114 strikes the figures obtained, though incomplete as to this matter, indicate that 9,017 persons were involved, who were not actually engaged as strikers, but were prevented from working on account of such strikes. The following table shows the nature or kind of industries, the number of strikes and the number of persons prevented from working on account of such strikes in ten industries where more than one strike occurred in each industry:

Nature of industry.	Number of strikes.	Number of persons involved but not engaged.
Coal mining,	52	2,519
Carpet weaving,	33	2,145
Boiler making,	*1	6
Blast furnace,	3	30
Hosiery manufacturing,	2	139
Woolen and worsted goods manufacturing,	4	1,500
Cigar making,	2	128
Woolen goods manufacturing,	2	194
Cotton and woolen goods manufacturing,	*1	12
Upholstery,	*1	80

There were, therefore, 6,753 persons so affected in the 10 industries above named. The remaining 2,264 persons being distributed among 13 industries where single strikes occurred, as the general table will show.

As to the length or average duration of the strikes the following table shows the average duration of 128 strikes which occurred in 11 industries where there was more than one strike to each industry:

Nature of industry.	Number of strikes.	Average duration.
Coal mining,	69	42.5 days.
Carpet weaving,	34	34.9 days.
Boiler making,	5	2.6 days.
Blast furnace,	4	5.5 days.
Pig iron,	2	7 days.
Hosiery,	3	6.6 days.
Woolen and worsted goods manufacturing,	4	12 days.
Cigar making,	2	14.5 days.
Woolen goods manufacturing,	2	31 days.
Cotton and woolen goods manufacturing,	2	9 days.
Upholstery manufacturing,	*1	4 days.

In 15 other industries in which single strikes occurred the average duration was 11.3 days. One strike, that of the electric street railway, lasted part of ten days, and one, that of the drivers of milk wagons, lasted part of one day. No report as to the duration of six strikes has been received. In 143 strikes, out of 151, a little less than 95 per cent. of all, the average duration was 31.8 days. Out of the 151 strikes 43, or 28.4 per cent. succeeded; 70, or 46.3 per cent. failed; 32, or 21.2 per cent. succeeded partially, and of the remainder 3 reported a compromise; 1 reported "miners accepted the reduction, but in two weeks former wages restored;" 1 reported "an increase of four cents per ton allowed," and 1 reported "resumed at sixty cents per ton." Out of 151 strikes estimates of actual loss to the strikers were received from 132, or 87.4 per cent. of all. In these 132 strikes there were 15,109 persons actually engaged. These 15,109 persons lost in wages, etc., $913,495, or an average of $60.46 per person. No estimates were received as to 17 strikes on this important feature. One was reported "don't know," and one that there was no loss. The sources from which these estimates were received were the best obtainable considering the facilities provided by the State for the collection of this data.

Out of the 151 strikes estimates of the loss to the operators were received from 89 establishments. These estimates show that the 89 establishments lost $235,883. No estimates were received from 45 establishments, and 16 reported no loss. One reported the loss of the profits on 87,500 bushels of coal.

*The other strikes in these industries not reported upon as to this matter.

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